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A Conceptual Framework for Preventive Psychiatry Programs in Military Centers

By

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IN THE military services responsibility for the prevention of emotional and mental disorders (as well as for their diagnosis and treatment) is assigned by regulation to the psychiatrist and his professional associates. But these members of the psychiatric team, oriented by training and experience to consider as their primary function the care of the individual patient, are often unable to formulate clear and constructive programs for the promotion of general mental health and the prevention of mental disorder, and therefore generally restrict their activities to clinical practice.

An understanding of certain basic principles of preventive medicine, however, helps to provide a framework that can be utilized very effectively in organizing programs of preventive psychiatry. Hugh R. Leavell[1] has pointed out that disease "is a dynamic biological process which results when there is a shift in the delicate balance in the interaction between host, agent, and environment." In this respect, there is a certain basic unity of so-called "mental" disorders and so-called "physical" disorders. The process of a mental disorder, like that of all disorders in the human organism, follows a certain pattern. This pattern can be defined epidemiologically as it affects groups of people; and a series of successive phases, with strategic points at which barriers to the progress of the disorder's development may be interposed, can be distinguished.

A conceptual framework utilizing such barriers (divided arbitrarily into broad bands termed "levels of prevention" by Leavell) can be applied readily to psychiatric illness. In selected social environments, such as military training centers, the value of certain specific measures to be taken at each of the various levels of prevention then becomes evident, and the conceptual framework can be utilized as a basis for putting into operation a pragmatic program of preventive psychiatry. For example, the first phase of disorder to be considered is "prepathogenesis," during which the balance between individuals and their environment has been disturbed in a manner that might prove favorable to the development of illness, although the individuals are not yet clinically disordered. The level of prevention here involves promotion of the general physical, mental, and social health of the military community. The psychiatric team can assist in over-all preventive medicine programs,

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can help organize special indoctrination and training courses to aid in developing adequate and understanding leaders, can advise command and medical officers on obtaining maximum utilization of manpower by providing proper incentive and motivation, can aid in planning information and education sessions to give troops better insight into the necessity for military service and into reality expectations in such service, and can encourage morale-building activities to foster a greater sense of participation in, and identification with, specific units and the general military community.

The second phase of disorder to be considered is "early pathogenesis," when disorder is present but before signs or symptoms can be recognized in individuals. The level of prevention here involves specific protection for the troops: general orientation programs, individual and group counseling, lectures, and "preventive group therapy discussions," to help individual soldiers and their commanders understand the nature of common emotional conflicts arising in military service, and to be aware of various possibilities for dealing with and controlling such conflicts. Analysis and investigation of unit AWOL rates, disciplinary problems, and sick-call rates helps to establish evidence of pending trouble, and action can be taken to avert such trouble before more serious individual disorders become manifest.

The third phase of disorder to be considered is "demonstrable but early disease," when definite existence of the disorder in individuals can be determined or reasonably suspected. The level of prevention here involves early diagnosis and prompt treatment. Adequate case-finding, early recognition of the disorder, and immediate referral for psychiatric treatment require that the psychiatric team educate non-psychiatric military personnel and establish liaison and close working relationships with them, so that the latter become willing and able to refer to the psychiatrist any serviceman whose behavior in any way presents a problem. Principles of evaluation and treatment of the individual patient—"barriers of prevention" at the third, fourth, and fifth phases of disorder—have been discussed in detail in another paper.[2]

The fourth phase of disorder to be considered is "advanced or manifest disease." The level of prevention here involves limitation of disability. Adequate evaluation and treatment at this phase often salvage the individual soldier so that he still can adapt successfully to military service, and in other cases may expedite the separation from military service of those soldiers who are not able to adapt.

The fifth phase of disorder to be considered is "convalesence." The level of prevention here involves rehabilitation. Even after the disorder becomes relatively stabilized, it is frequently possible through psychotherapeutic techniques, supportive follow-up contacts, modified training programs, and other measures to make maximum use of the individual's remaining capacity to perform efficiently in his military duties.

With such a framework as a basis, then, the psychiatric team can expand its activities into the area of prevention, and is able to utilize all available resources for the ultimate benefit of the individual serviceman, the military organization, and the nation.

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A Therapeutic Community in an Overseas Naval Hospital

By

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THE problem of operating a psychiatric service in an overseas military hospital in a manner most conducive to patient care and recovery presents a challenge both in the administrative and treatment aspects of total hospitalization. There are numerous administrative details involved in military medicine which often prolong the period of hospitalization and can, if not properly dealt with, interfere with therapeutic endeavors. In addition it is usual that all kinds of emotional and behavioral disorders must be managed on the same ward, making administrative and therapeutic responsibilities inseparable. When a patient is admitted to the hospital the medical officer must eventually predict whether he feels the patient will ever be able to return to duty; or if the patient's disorder is such that the doctor feels he can never adjust satisfactorily, the patient must be surveyed from the service. The latter process takes a good deal of time as objective material must be gathered from outside sources in order to meet the legal requirements involved in protecting the serviceman's rights. Either process takes several weeks and even when a program of treatment is not felt advisable, the patient remains in the hospital, finds himself restless and repeating the same behavior patterns which originally brought him to the attention of the medical department.

In addition, the treatment philosophy which the individual doctor adopts appreciably affects the course of hospitalization for the psychiatric patient. Young doctors coming into the military service following an interruption in their psychiatric residencies often tend to have a highly restricted approach to therapy—feeling that only individual prolonged psychotherapy with ambitious goals involving some nebulous "inner psychic change" will help the distressed patient. This kind of thinking is not necessarily limited to those early in training but has been observed in some with quite broad training and experience who feel that very little can be done in the military service to help the emotionally disturbed individual. Such thinking is epitomized by some with extensive psychoanalytic training who feel it actually detrimental to treat patients with any form of brief therapy, but rather allow patients to keep their symptoms, hoping that at some future date they will have sufficient motivation to seek extensive analytic psychotherapy.

All these factors contribute to the decisions made which directly affect the military careers and personal lives of a sizable number of young men. In the four year period, 1951-55, in the Navy and Marine Corps, 30,000 men and women were surveyed from the service with emotional and personality disorders and another 17,000 were discharged from the service during recruit training as being "unsuitable" for military service. In 1956, 699 patients were admitted to the psychiatric service of this hospital alone and in the same year, 385 were returned to duty and 309 were considered serious enough to be evacuated to the United States for more prolonged evaluation and ultimate disposition.

The challenge then presented itself: how could we most therapeutically operate a

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psychiatric service consisting of an open and a closed ward with a relatively rapid turnover of patients, staffed by a small inexperienced nursing staff and with doctors who had varying backgrounds and philosophies of treatment? Following the successful experiences of Commander Harry A. Wilmer, MC, USNR, in operating a closed admission ward in a psychiatric treatment center as a therapeutic community based on recent developments in social psychiatry in England,[1,2] we felt these experiences could be adapted to fit our own situation most beneficially. It also seemed a natural extension to try these methods in an overseas hospital which was not designated a treatment center. We felt that by beginning to inculcate an attitude conducive to therapy as soon as the patient was admitted to the hospital, time could be saved in total hospitalization. We also believed that the condition of the patients could be improved prior to transporting them by air from overseas and perhaps eventually more patients could be returned to their duty stations from this overseas hospital. This paper will report the initial phases of the establishment of a therapeutic community program and present the results of the first eight months of our experience.

Community Therapy

The concept of the therapeutic community involves a reversal in the order of the traditional hospital hierarchy in which a social environment is established where patients learn to share increasingly the responsibilities for the operation of the community and in the treatment and control of the members. The role of the patient is elevated to the subordination of certain traditional functions of the staff. Interpersonal relations involved in the day by day running of the community are the important grist for treatment. Skill in unraveling these relations and in understanding their effects on individuals and on the community as a whole is the important task and is essential in treatment. This does not imply that the staff should give up all its functions in management of the community, but that it give up certain repressive, restrictive means to control patients' behavior and assume roles, as they feel comfortable in doing so, of models for good social behavior for the patients. Decisions, although increasingly put in the hands of the community as a whole, still sometimes have to be made by staff members.

Community methods of treatment in mental hospitals evolved from the work done in England during World War II at Northfield Hospital[3] and were applied to civilian situations by Maxwell Jones and others to meet the needs of treating specific kinds of disorders. Jones, for example, at the Social Rehabilitation Unit at Belmont Hospital, applied the methods to treating socially maladjusted individuals who could not hold down jobs or live with others in a normal social manner.[4] Main at the Cassel Hospital worked with neurotic disabilities and has made advances in the treatment of entire families.[5] Rees, operated a large mental hospital of some 1200 patients without the use of closed wards. Bierer has treated patients entirely on an out-patient basis, but does this within the setting of the community of a "day hospital" where patients come to spend the day and then return to their homes or families to spend the night.[6]

Wilmer, having visited these hospitals, applied the principles of community treatment to a closed admission ward of the psychiatric department of a large Naval Hospital which had a rapid turnover of both patients and staff and through fostering internal social controls rather than those externally imposed, was able to totally eliminate the use of seclusion rooms, mechanical restraint, and nearly do away with sedatives on a ward which previously had employed all these techniques quite freely.[7] The author was fortunate in that he was able to participate in this study and then was sent by the Navy to spend some time in the English hospitals where methods of social therapy had been developed and put into extensive use.[8]

The Yokosuka Naval Hospital

The U. S. Naval Hospital, Yokosuka,

Japan, serves Naval and Marine Corps personnel, their dependents, and government employees on duty in the Far East, and is the only fully equipped and staffed Naval Hospital west of Guam. The hospital is also a United Nations Hospital and occasionally military patients from other countries are admitted and treated. Under these provisions, it also gives treatment to foreign nationals who are serving sentence in nearby Japanese prisons for crimes committed against the Japanese. The census of the hospital varies between 300 and 500 and during the Korean conflict, the census was multiplied many times in a few weeks to accommodate large numbers of casualties arriving by plane and by ship. The hospital is staffed and equipped to send medical and surgical teams into advanced areas on short notice and likewise is prepared to receive large numbers of casualties should the need ever arise.

The neuropsychiatric service consists of an open ward with 40 beds and a closed ward with a maximum of 33 double decked beds and an overflow ward which could accommodate an additional 40 beds. The census varies greatly due to the operation of the fleet in the Far East and the movements of the Marine divisions. The service varied from a total of 30 patients to over 100 when the fleet was in port and there were Marine troops present in the area. The admission rate showed wide fluctuations; some days would pass with no admissions, but on other days when an evacuation plane would arrive from another area in the Far East, perhaps as many as 5 to 7 (and on one occasion 15) patients might be admitted in a single night.

Organizing the Therapeutic Community

Three hospital corpsmen, trained and experienced as neuropsychiatric technicians, a trained psychiatric nurse and the author, a clinical psychologist, were transferred from the Oakland Naval Hospital in the summer of 1956 to augment the existing staff of three psychiatrists and 22 hospital corpsmen, none of whom had had prior experience with group therapy or community methods of treatment.

The first work was begun on the closed ward and when this was satisfactorily under way, it seemed logical to extend it to the open ward and then to combine the psychiatric service as a unit.

The closed ward had a capacity of 33 beds and 3 quiet rooms—all were usually filled to capacity. Strict security was maintained—patients had not been allowed to leave the ward except by escort; they were not allowed matches; could not have knives or forks to eat with; the only recreation available was a small courtyard in which to exercise, when the corpsmen could be spared; and a movie each afternoon on the ward. There were no regularly assigned nurses on the psychiatric wards—a nurse from an adjacent orthopedics ward covered both wards mainly to dispense medications. Nurses did not feel wanted on the psychiatric service and were not permitted to have a key to enter the closed ward. There was a group of young, inexperienced hospital corpsmen, basically friendly in their relations with the patients, none of whom had had formal training in psychiatric nursing and some had overt manifestations of emotional conflicts as great as the patients.

The mean monthly admissions rate in the previous year (1955) had been 89 patients. Many arrived without prior consultation, from other areas in Japan, Okinawa, Formosa, Korea and from the fleet in the Far East. They often arrived in an acutely disturbed condition; in restraints and under heavy sedation. Some were from prison in Japan. Frequently patients who had made rather serious suicide attempts were admitted. Disturbed, intoxicated patients from other services in the hospital and from the area were admitted to be placed in the quiet rooms overnight as there was no other place in the hospital to put them. Frequently prisoners from the local brig were admitted for evaluation. All these conditions contributed to a heterogeneous ward population and created an atmosphere of a dangerous and potentially disturbed ward.

To permit meetings on the ward, the double deck bunks were rearranged so that a space in the rear of the ward could accommodate patients and staff in a group. The staff members were told that we were going to abolish the use of the quiet rooms and restraints, and reduce the amount of sedation given. Self control of the patients was to replace imposed control by the staff and there would be daily community meetings; community meetings with both patients and staff each morning six days each week, to be followed by a 20 minute staff meeting to which everyone was expected to attend.

The open ward had a bed capacity of 40. There were no organized recreational or therapeutic activities on the ward—the majority of the patients were housed there awaiting to be returned to duty or were to be scheduled for air evacuation; only a few were being seen in individual therapy; no organized group activities existed. The delay in scheduling evacuation would run as high as three or four weeks depending on the total number of patients leaving all military hospitals in the Far East.

Combined community meetings were held five weeks after the program began. Patients from the closed ward were brought to the open ward each day to attend the meeting. The entire staff also attended. At times more than 120 members were in the group—more than there were chairs—necessitating putting blankets on the floor for the members to sit on. An atmosphere of seriousness and courtesy prevailed even when there were acutely disturbed members present.

Small groups were also introduced, the first being composed of those patients having motivation to return to duty and who wanted to receive help with their personal problems. These met daily for an hour and had from 6 to 15 members. A daily meeting of the closed ward patients and staff continued which all on the ward were required to attend. Other group activities were introduced which patients could participate in on a voluntary basis: on one afternoon there was a writer's group that wrote and produced a play or skit, wrote pamphlets for patients and assisted with the weekly newspaper which the patients initiated; an art group led by a corpsman and a nurse met two evenings per week.[9] Recreation trips to nearby places were conducted by the Red Cross recreation supervisor, a regular member of the community.

For the nursing staff, an active teaching program was begun by the nurse; this led to several of the existing hospital corpsmen being eventually certified as neuropsychiatric technicians. A staff meeting was introduced two afternoons per week where interpersonal staff tensions were worked through. In many ways this group was the most rewarding for enlisted corpsmen learned to openly express their feelings in the presence of their officers—and, indeed, on occasion felt free enough to openly criticize them—a procedure rare in any branch of the military service. A group of staff corpsmen became active in the small groups and met weekly with other staff members to discuss techniques of community therapy.

Goals

The initial goals of this program, in addition to evaluating techniques developed in the Oakland project at an overseas hospital, were: (1) to improve management of patients on the wards by dealing openly with staff-patient tensions inherent in the adjustment of the patients to the hospital, (2) to prepare patients for continued treatment and hospitalization both here and elsewhere if they could not be restored to duty, (3) to encourage patients to begin to take an active part in their own and other's treatment, (4) to eventually return more patients to duty from this hospital, (5) to decrease the number of patients evacuated to the United States in restraints and to improve the clinical condition of those sent by air evacuation to other hospitals by developing greater self control.

Initial Results

In general the initial goals have been attained. Except for one occasion when a pa-

tient was sent to the quiet room by guard on order of a higher authority, the quiet rooms have not been used for any psychiatric patient for the past 9 months for the care of 474 patients. Prior to this period they were used almost constantly to control and segregate disturbed patients. Restraints were also eliminated during this period, knives and forks were introduced on the closed ward; sedation is now rarely used where, prior to the initiation of the community, it was used extensively to control patients. The use of the ataractic drugs was minimal—no more than two or three patients out of 70-80 were on chlorpromazine at any time. This medication was found especially helpful for acutely disturbed patients and was usually discontinued as soon as the patient was accustomed to the ward and in control of himself. In such cases it was initially used intramuscularly for 1 or 2 days, then given orally in decreasing dosages.

The number of patients with psychotic diagnoses sent from the hospital for further study and disposition, decreased more than one half during the eight month period following the establishment of the therapeutic community program, as compared with the eight months preceding the program (see Table 1) while the proportion of psychotics admitted remained nearly the same.

The number of patients diagnosed as having character and behavior disorders rose somewhat as the dispositions changed quite remarkably during this period, and the number of neurotics remained nearly the same. The shift in diagnosis reflects a change in staff and philosophy of disposition.

The condition of patients leaving the hospital for air evacuation to the continental limits of the U.S. for further study and treatment changed quite notably (Table 2). During the course of the study made at Oakland, we were constantly concerned with the condition of patients arriving from overseas. We felt that too high a proportion were arriving in restraints and under sedatives and far too many experiences occurred under these conditions which adversely affected the treatment of the patient's illness. If a patient was already distressed, restraint and sedation many times served to compound his confusion and further strain his tenuous hold on reality.[11] Those entrusted with flight operations of patients too often indiscriminately enforced the regulations of the flight classification* for the entire trip from the

* Classification of psychiatric patients for air transportation: 1A In restraints and under heavy

(Continued on next page, column 1)

TABLE 1

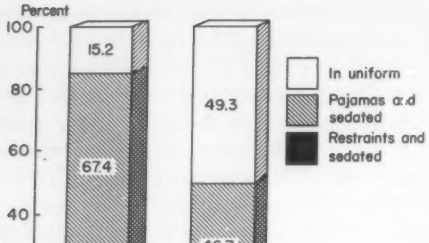
DISPOSITIONS OF PATIENTS AT U. S. NAVAL HOSPITAL, YOKOSUKA, JAPAN, 8 MONTHS PRECEDING AND 8 MONTHS FOLLOWING THERAPEUTIC COMMUNITY PROGRAM* (IN PERCENTS)

	Air Evacuation		To Duty	
	Before	After	Before	After
Psychotics	70.7	32.5	6.8	6.0
Neurotics	14.9	18.4	12.8	14.9
Char. & Behav. Dis.	13.3	46.1	41.2	51.3
Psychiatric Observation	—	—	29.1	19.7
Trans. Situat. Maladjustment	1.1	2.9	15.9	13.2
Totals	100%	100%	100%	100%
N=	188	206	289	234

* Admissions are not presented as most patients were not seen by a psychiatrist, and some not even by a medical officer prior to admission; hence admitting diagnoses are not correct and 60–70% were admitted for "psychiatric observation."

Includes only those patients with psychiatric diagnoses. Excludes the first month of the therapeutic community which was a transitional month.

TABLE 2



Graph showing air evacuation of patients from Psychiatric Service, U.S. Naval Hospital, Yokosuka, Japan for 9 months preceeding and 9 months following establishment of a Therapeutic Community Program.

Far East, which took 3 to 5 days and longer. The graph reveals that 9 months after the program began, nearly one half of the patients being sent on air evacuation were in their uniforms and under their own control. The number being sent in restraints also decreased sharply during this period.

The change in philosophy with the inauguration of the new program was to keep the patient on the ward until his illness had become stabilized and he was in remission—rather than the previous attitude of transferring patients as soon as possible in order to get them off the ward. This change in philosophy is reflected in a report by the School of Aviation Medicine at the U. S. Air Force University of a project to study the effects of using ataractic drugs rather than sedatives in evacuating patients from overseas by air:

> The Naval Hospital at Yokosuka had a rather high locked ward census and appeared to exact a heavy demand on a small staff. Staff patient ratio was less than half that of either . . . hospital or the . . . hospital. Despite this staffing disadvantage a highly individualized philosophy was manifest toward each patient. In classification there was quite a liberal view with the choice lying between 1B* and 1C, and patients thought to be able to travel only under the conditions of 1A most usually were held on for further on-ward care prior to evacuation. There was no classification by diagnosis. Thorazine was rather infrequently used but in major acute disturbances was given as the drug of choice.[12]

It was also possible to move patients off the closed ward sooner and keep fewer patients on the closed ward after the therapeutic community was established. It thus was possible to reduce the number of beds

sedation; 1B mild sedation, in pajamas and on stretcher; 1C no sedation and in uniform. Use of stretchers takes considerably more plane space hence this method of transportation is more costly and its effects on disturbed patients questionable.

TABLE 3

BED CAPACITY AND BEDS FILLED FOR 8 MONTHS PRECEDING AND 8 MONTHS FOLLOWING ESTABLISHMENT OF THERAPEUTIC COMMUNITY. U.S. NAVAL HOSPITAL, YOKOSUKA, JAPAN

	Bed Capacity		Average Patient Load for Month		Average Percent Beds Filled
	Range	Average	Range	Average	
		Closed Ward			
8 Months prior (1 Nov to 30 June)	28–50	34.8	22.2–31.5	26.2	75.3
8 Months following (1 Aug to 31 Mar)	25–33	26.0	10.8–19.4	13.4	51.5
		Open Ward			
8 Months prior (1 Nov to 30 June)	60–88	78.8	28.5–70.2	48.9	62.1
8 Months following (1 Aug to 31 Mar)	82–88	84.2	47.9–67.0	54.5	64.7

on the closed ward and in addition to reduce the occupancy of the remainder by one half. As normal social controls were encouraged, the need for external controls lessened. Table 3 presents the bed capacity and number of beds used for each of the two periods on the two wards.

In the 10 months preceding the therapeutic community, it was found necessary to administer 10 electro-convulsive shock treatments and 174 sub-insulin shock treatments; since the therapeutic community began it was not felt that any patient admitted needed shock treatment.

Follow up. We have not as yet developed systematic means of following those patients sent on air evacuation or those returned to duty. Informal communications from former patients have been favorable. In addition, the author was able to spend two weeks with the staff and former patients at the Oakland Naval Hospital 10 months after the program began. Forty patients who were formerly members of the community were seen and observed and this data will be presented in a further report. It would appear that the self-control process does hold up in time. Of our former patients seen at Oakland, which is a treatment center and hence receives the majority of patients from other hospitals not believed able to return to duty, 90% (36 patients) were functioning on the open wards. Patients from Yokosuka comprised 21.4% of the total psychiatric population at Oakland.

Summary

This paper has presented some of the rationale for establishing a therapeutic community type of management and treatment program on a psychiatric service in an overseas hospital treating Navy and Marine Corps personnel on duty in the Far East. The community began on the closed receiving ward and was soon extended to the psychiatric service as a unit. Daily group discussion meetings were introduced on the closed ward and then were expanded to include the open ward. Daily groups continued to function on the closed ward and smaller voluntary groups were established in the open ward. The use of the seclusion rooms, all forms of restraint and shock treatment were eliminated. Hydrotherapy was not available and wet packs were no longer used. Sedation, formerly used quite liberally, was reduced to an insignificant amount. The ataractic drugs were found useful in acutely disturbed psychotic patients for the first few days of their hospitalization but were discontinued shortly thereafter. The number of patients leaving the hospital in restraints and under sedation was appreciably reduced and after 8 months nearly one-half of the patients leaving were in uniform and under their own control. Other aspects of the program have been described elsewhere.[13,14]

Discussion

The therapeutic community concept places increasing emphasis on self control and relies on normal social controls—teaching means of normal social living. The patients involved in this program consisted mainly of youthful military personnel. By their behavior they had demonstrated marked difficulty in adapting themselves to military requirements over a period of time. Maladaptation in terms of emotional illness did not mean that they could not and did not adjust to the military but that they did develop less ego preservative means than did their comrades. Given the opportunity to learn techniques of social adaptation almost all patients could and did develop inner controls to the point where they could manage their own behavior and begin to examine some of their less healthy modes of adjustment. When restraining devices were eliminated, antisocial behavior was seen in a new light and was treated in a therapeutic manner by the community. The members were able to develop techniques to handle most all of the daily problems of their members in a short time and within a relatively strict military environment.

The therapeutic community involves the development of a social culture which is perpetuated by the members of the society, and its principles become a part of the acculturation of new staff members as well as new patients. The process itself, through minute examination of the effects of the behavior of each individual on others and on the community as a whole, becomes a corrective social process in which patients and staff learn to work together with solving their underlying emotional conflicts and current social tension.[15]

Handling of here and now problems of a practical nature lessens individual and group tension so that underlying problems may be dealt with more safely while the individual members receive group support for social conformity or must run the risk of community disapproval for asocial behavior. Living together 24 hours a day brings everyone's behavior under close scrutiny so that alleviation of anxiety does not preclude dealing with more underlying individual and group problems. This is especially true with the so-called aggressive "psychopath" and his sometimes apparent absence of external tension. Over a period of time even his behavior and ways of thinking become exposed to the community and eventually can be examined and dealt with.

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Military Rations*

By

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IN AN era of dizzying progress—the one you and I are now living in—the danger is that the exciting advances along one avenue of progress will be offset by discouraging lags in another. As we adapt our incredible advances in machines and propulsion in order to get to the moon and Mars and ultimately the Milky Way we are prone to forget that the things the *human* machine requires must also advance—for example, man's food.

PHASE I: NEWER DEVELOPMENTS

In the past few months the general approach of the Quartermaster Food and Container Institute for the Armed Forces has been in line with the requirements of the era that we are now desperately trying to understand. New responsibilities have been laid on by the streamlining of the Army Combat Arms and the resultant changes in the logistical concepts prompted by these changes. Let us review for a moment some recent events. The advent of the Military Subsistence Supply Agency, the single manager for subsistence, definitely accelerated the procedures involving standardization and specifications. A faster pace has become of prime importance in this stepped up world of today. For example, it has been necessary to rid ourselves of "excess weight" in our subsistence inventory. It is a pleasure to report that we have definitely achieved a reduction of the number of line items in the system by coordination and by consolidation of the requirements of the four services both from the standpoint of the foods themselves and the containers that they are packaged and packed in. We have simplified the enormous task of feeding the "military multitudes." Let me say that this aspect of the Institute's work has contributed to the vitally important cause of economy and has had the full support of the services.

This is but one phase of the activities at the Institute, however. The everchanging needs in the military characteristics for subsistence items require an almost daily reevaluation of some phase of the feeding system. Not only must this be done for the present foods in the supply channels but much thought and planning must be given to the use of foods by the newer combat arms as is envisioned in the Army of Tomorrow. Let me stress again that this Army of Tomorrow must pay attention to the *human* machine as well as to the metal machine. The problems of the far future in regard to "fueling" the fighting man of tomorrow are staggering. The technologists must work out acceptable products that will permit men in utterly new operational environments to function physically and mentally with the same efficiency as that of these machines. As man increases his knowledge of the utilization of the oceans, the atmosphere, and space, he must increase his knowledge of man himself. One can well ask, "What is the Quartermaster General of the Army doing as provider for the four services to meet the challenges of today and tomorrow?"

In this paper, I will attempt to silhouette—or to profile—the investigative progress, the concerns, the planning being done at the Quartermaster Food and Container Institute in conjunction with the Quartermaster Research and Engineering Command, Natick, Massachusetts, with the Office of the Quartermaster General for the Army, and with the Navy, Marine Corps, and Air Force, and with the U. S. Army (SGO) Medical Nutrition Laboratory (USMNL), Fitzsimons Army Hospital, Denver, Colo.

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A number of approaches are being taken by the Institute to solve the fantastic puzzles that make up the general problem known as simplified food logistics. These are projects in the realm of the production of raw and precooked dehydrated foods, including meats, dairy products, vegetables and fruits; radiation sterilization of foods. Further comment will be made on each of these projects in the latter portion of this presentation. But let me add now these additional preoccupations—aseptic canning of meats; successful delivery procedures including proper packaging methods to insure the delivery of subsistence by whatever form of transportation available including the airlifting and paradropping of subsistence items. There is also the development of food items for specific purposes, including in-flight foods, survival packets and the International Geophysical Year trail rations. Nor can I omit the limited food and water intake studies; the earnest effort to define the nutritional requirements of men in extreme climates; the interaction of foods and containers in storage including the development of non-ferrous packaging materials to combat this problem; accelerated storage life tests; new methods of food preservation; the feasibility of the development of synthetic foods; the development of unitized meals for both field use of individuals and in field messes; and as well unitized quick-serve meals; the use of multipurpose packaging materials for a wide variety of products under a long list of conditions; and the providing of water for purpose of rehydration of the dehydrated foods, both cooked and uncooked, used in the field. Need I say that this is "full spectrum" research and development?

What is the mechanism by which these vital problems are brought to the door of the Institute? The Military Subsistence Supply Agency is one important source. It makes known to the Institute the need of the various services for changes in the requirements as ordinarily outlined in the specification for that item. Action is then taken to determine what is needed; the proper liaison officer is contacted and his service is invited in the coordination of the requested change. This informal concurrence is quite effective in getting solutions to the problems. On changes of major nature formal coordination procedures with each of the services, industry, and other governmental agencies is thereupon effected. I have been speaking, of course, of the needs of our present forces.

For forces of the near future action is being taken to provide foods that will be of the most value to the streamlined army of this foreseeable future. The most promising of current projects is the employment of a meal system rather than a ration system. This is a sharp break from the past. Implementation of this concept is well along—for example, the repackaging of the C-Ration into individual meal components. Studies as to the feasibility of the production of certain dehydrated products have also been completed and within a year it is hoped that a ten day menu cycle will be perfected.

Dehydrated Foods

The role of dehydrated, unitized meals, ready to cook, or ready to serve requires some elaboration. The fact that a balanced group of foods is available in each of the packages will allow the supply system to maintain much smaller depot stocks, reduce the requirement for fixed and mobile refrigeration facilities and equipment, effect a very important reduction in the manpower required to handle these commodities, and in addition provide a larger variety of more acceptable foods, especially meat items, than are normally found in the B-Ration as we know it today. You can see the direction in which we are going.

Problems yet to be finally solved in the dehydration of foods involve reducing the cost of production, improving the packaging, and getting a better uniformity in the product. Among the disadvantages of the use of dehydrated products is the need for water, time, and attention at the time of rehydration for feeding. Some of the foods require boiling water and it can be readily seen that this

could be impractical in certain combat situations. The use of irradiated foods under these conditions is being considered and ham, chicken, and roast pork prepared under these conditions have, thus far, been fed for short periods to laboratory animals. Radiated pork has been fed to human volunteers for a period of one month at the USMNL, Denver, Colorado. Dr. Virgil Wodicka, Associate Director of the Food Laboratories, QMFC1, stated at the Quartermaster National Convention in San Francisco this month (October 1957) that "Although developments have not yet reached the stage of extensive field testing, it seems likely that the combination of dehydration, radiation, and canning, separately and together, will give for the first time a non-perishable ration *which can be fed over an indefinite period* without serious loss of acceptability and consequent loss in consumption and performance." This is a remarkable statement. It suggests that we are already reducing the lag between advances in a non-animate (the metal) machine and in the animate (the human) machine.

Aseptic Canning

It has been determined that of canned meats as currently processed acceptability falls off after about thirty days feeding duration. Preliminary evidence shows that if some of the volatile odors can be removed prior to the time of sealing the can, the flavor of the product will be much like that of the fresh cooked product. Cooperative work with industry is being carried on to determine means of aseptically canning meats that will remain acceptable after long use.

Aerial Delivery

In the aerial delivery projects undertaken it has been found that subsistence items can be successfully airdropped with the use of a small extraction parachute if some type of energy absorbing material is used to cushion the impact. With the decrease in weight effected by some of the newer processes, use of airlift for the delivery of subsistence to combat areas has become feasible.

Special Purpose Foods

Foods for special purposes have been designed and produced in the past few months. Included in these are four liquid meat products for use by Air Force personnel in high performance aircraft, plus a variety of canned dairy items. The development of semi-solid foods has progressed with the help of industry and it appears that a satisfactory tube with an elongated spout for packaging these items will be available in the very near future. This will provide air force personnel with a variety of foods that can be used in conjunction with a full pressure suit. The development of freeze dehydrated sticks of foods to be used in the "lipstick" dispenser with the full pressure suit appears to be quite feasible and includes chicken, turkey, and beef items. Such sticks would replace the food tablets that were developed for use by pilots wearing oxygen masks but proved to have a low acceptance. Further, it is considered feasible to produce other items in stick form for this purpose and work is soon to be initiated in this area.

The military supply system now includes a variety of food packets planned for use under survival conditions. Calorie levels vary from 535 to 3,500, and composition is equally disparate. The long range and high speed of present means of transport bring into question the validity of the differences in design concept embodied in these rations in that ration stocks stowed in emergency kits or compartments cannot be and usually are not changed from region to region or from mission to mission. A nutritional and biochemical basis of design for an all-purpose survival food packet has been arrived at after much research, and a set of six specially formulated food bars have been made to be substantially interchangeable in nutritive value but as widely different as possible in flavor. About 4,000 packets have been made up from these bars and sent to users for development work. Such early evaluation by using agencies is an unusual procedure, but these foods are so special in their application that evaluation in the laboratory is too

sharply limited to serve as the sole guide to development up to the engineering test state. These packets are now in the field for test by several Air Force, Army, and Navy installations both in the continental United States and overseas. It is hoped that the result of these tests will show that this survival ration will be suitable for use in all climates and under almost any condition after minor modifications in components and packaging can be made. The Marine Corps has expressed interest in these nutritionally balanced high calorie bars for use as a combat ration, and studies have been undertaken to prove the merit of such use.

I might add, quite unofficially, that some of the research on the survival ration has application to the design of other "austere diets" —even perhaps those to be anticipated when man ventures beyond the ionosphere.

Multipurpose Packaging

When properly protected, dehydrated foods are among the most stable. In order to achieve the potential long storage life, however, action must be taken to stop known deteriorative reactions. One of the chief of such problems is the "browning" reaction, which gives scorched colors and flavors and diminishes ability to reconstitute. This can be prevented if the moisture content of the food is kept low enough. At the same time, this low moisture makes it impossible for bacteria, yeasts, and molds to grow and produce spoilage, even though they may be present and alive within the product. At these low moistures, however, tendency to oxidize and develop rancid flavors is much increased. For substantially all dehydrated foods, therefore, a package is needed which will keep moisture and oxygen out with high effectiveness over potentially long storage periods. For quick-serve meals, the packages must also withstand exposure to boiling water added to reconstitute the food in the package.

Results to date on tests with cabbage, mashed potatoes, lima beans, and soups indicate that packages are available which will hold these products in satisfactory condition for one year and still permit reconstitution in the package. Best materials to date are combinations of aluminum foil, Mylar and Pliofilm.

One of the most important features of a package is its seal. Methods of sealing the materials needed for satisfactory flexible packages are being studied under a current contract with Midwest Research Institute. Ultrasonic and electronic sealing are being explored as well as the conventional methods using adhesives or conducted heat. Storage studies have shown the need for better packaging materials for products to prevent the interaction of the product and the containers. Many flexible and non-flexible materials have been tested and the most promising appears to be a package consisting of Mylar for strength, foil for moisture baffle, and another material such as polyethylene or saran to provide an effective seal.

International Geophysical Year Ration

A special ration was requested for use in the Antarctic by tractor trains consisting of three tractors, each carrying two men. It was planned for each train to carry food for 120 days and for a ration to furnish at least 5,000 calories. A ration based on a 10-day cycle of 3 meals per day was designed to supply an average of about 5,300 calories in about 3.25 pounds. Considerable use was made of dehydrated foods because of their light weight and lack of susceptibility to freezing. The request for this ration was received on 25 June 1957. It was designed, coordinated, procured, assembled, and shipped by 13 August 1957 in order to meet port schedules. This was possible because of other active ration development projects from which items could be selected for this purpose.

Extreme Climate Feeding Problems

Soldiers exposed to extreme climates undergo a period of bodily adaptation during the first few weeks of their stay in the climate. This acclimatization is necessary to

permit them to function effectively under the conditions presented. It seems likely that nutritional requirements change under these conditions along with many other characteristics of human function. The fact that calorie requirements change is well known, but little is known of effects on requirements for various specific nutrients. Preliminary results indicate that men in a cold environment use more protein, but the reason is unknown.

Accelerated Storage Studies

The most serious bottleneck in the military food development program is in the storage testing of newly developed items. Accelerated test methods would greatly increase the rate of progress on ration improvement and development.

A chemical method has been developed for predicting stability failures caused by oxidative deterioration of fatty materials. It requires only one-tenth the time of standard oven tests. Evaluated on samples of dried whole milk, the test showed a correlation coefficient of 0.85 with results of taste panel evaluations.

Storage Life Extension

For centuries, food has been preserved by methods such as brining, pickling, drying, smoking, and others in which spoilage organisms are not killed but merely kept from growing and thereby from spoiling the food. The methods generally do not meet the requirements of today's military operations; the foods do not always keep, and when they do, they do not keep long enough. There is good reason to believe that a real understanding of the joint effect of moisture, acid, salt, and sugar on the characteristics of such foods would lead to a number of foods more acceptable than present canned forms but reliably stable for long periods. Progress along these lines has been made in the development of canned bread, cakes, and steamed and baked puddings and of pre-fried bacon. When produced under proper controls, these items keep well but are not necessarily sterile. Systematic studies in progress are aimed at the development of general principles which will permit extension of these present successes to a variety of other foods. Present work is concentrated on defining the relationships between free moisture content and growth of micro-organisms with exploration of the enzyme reactions involved in spore germination and bacterial growth. Later work is planned on defining the effect of specific ions, antibiotics, enzyme inhibitors, and other preservatives suggested by the exploratory studies.

Water purified in the field for military use is often rather unpleasant to drink. In a ration based largely on dehydrated foods, acceptance could be seriously affected by use of unsuitable water. Whether or not this is a real problem is still unknown. In an effort to answer the question, water samples from typical poor sources are being used to reconstitute sensitive foods both before and after treatment with drinking water tablets at several dosages. A variety of waters from below-ground sources have been tested without finding any serious flavor problems in the reconstituted foods. The survey is now being directed toward surface waters. These are expected to pose more of a problem.

Time will not allow further elaboration on this subject but I believe it is evident that a great deal of effort is being expended in the never ending search for fuels to maintain the man in his role as the "brain of the machine."

From the above information it is obvious that the Quartermaster General of the Army is leaving no stone unturned in the quest for knowledge in food and container fields.

Phase II: Radiation as a Food Preservative

Investigations concerned with the application of ionizing radiation to food preservation continue at considerable pace, expense and with good fortune. It would be unrealistic not to recognize that there are still many problems confronting those who would put this processing technique into general appli-

cation. But, this is to be expected and one should recall that there still is not a final answer concerning the applications of thermal processing, freeze drying, or freezing. If one looks at the other side of the ledger, there is considerable cause for optimism. When it is recalled that this program was initiated only five years ago at a relatively low level of effort and that it has been possible to progress from the point from which it was questionable whether or not an end product could be produced, to the point where we are now in the final stages of establishing an acceptability test at Fort Lee, Virginia, it must be admitted that real strides have been made. In the area of wholesomeness, the studies completed include the feeding of several irradiated foods to human volunteers in order to determine the effect of radiation *per se* on foods maintained in the frozen state following radiation. Three facets of the wholesomeness program are now in several stages of investigation. A long term feeding program in which 21 different foods are involved is about one-third completed. This is a very large effort involving the purchase, radiation, storage and feeding of many tons of irradiated food per year. These foodstuffs are radiated at two levels, namely 3,000,000 rep and 6,000,000 rep and stored at room temperatures for a minimum of three months post radiation before feeding to selected animals.

There is being conducted at this time a feeding study at the USMNL; a human study involving eight foodstuffs that have been radiated at 4,000,000 rep and stored for 90 days at room temperature post radiation. A second study involving eight more food items is also planned for the immediate future. In conjunction with these studies, the respective food items have been radiated and are now in storage so that, pending the favorable outcome of the Surgeon General's wholesomeness studies, it will be possible to proceed directly to the acceptability studies of the Food Evaluation Agency at Fort Lee, Virginia. It is true that materials preserved by this technique develop colors and odors that are different from the natural occurring product or that which we recognize in thermal processing and freeze dried products. Consequently, it is necessary that criteria for evaluating these products be established.

NOW IS THE TIME TO VACCINATE AGAINST POLIO

Let's Keep It Simple

By

LIEUTENANT COLONEL SAMUEL MCCLATCHIE, MC, *U. S. Army**

Lt. Col. S. McClatchie graduated from University of Toronto, Canada in 1939. Subsequently he served with the Royal Canadian Air Force, the Canadian Army and the Indian Army in World War II. In U.S.A. when the Korean War began, he joined the U. S. Army Medical Corps and served with the 27th Inf. Regt. in Korea. Subsequently among other assignments he was advisor to the Japanese Army, instructor at MFSS and Division Surgeon of the 82nd Airborn Div. He is now an advisor with the MAAG Taiwan.

FOR some time it has seemed to me that a euphoric fog permeates the American mind. We are, in spite of repeated warnings and occasional frights, in an astonishing state of complacency. Science moves ever outwards like the expanding universe and the progress has been feverish and fantastic in my lifetime. Where then lies this complacency? It lies in the assumption that our movement is always in the right direction, always an advance; that we do things better than our fathers did; that our present methods are best fitted to see us through whatever dangers may confront us. If atomic war does not come, these assumptions may not be challenged but if it does come, I, for one, am sure that our ways, based as they are on a highly technical and tightly integrated civilization, will have to undergo drastic changes if we are to survive.

That is why I have written this article. The viewpoint is admittedly controversial. To illustrate my points I have quoted medical articles and talked about procedures which are common practice and I have disagreed with many of them. No criticism of any person or institution is implied thereby. I merely present an opposed opinion in the forum of free speech. It is my hope that this will stimulate thought and discussion. If it does, some of that complacency of which I complain may well be dissipated, to our mutual advantage.

For the last half-century or so, the complexities of our civilization have increased in geometric progression, and with them the ultra-specialization of work. The Armed Forces have been seriously affected, partly due to competition for men trained in such specialties and partly to the inability of any one man to take over efficiently the job of another. Once upon a time the soldier had to fight, man to man, and almost any other soldier could replace him. Now the technological advances in supporting arms are so great that it is only under unusual circumstances that the infantryman, alone, can win battles. It is trite to say that the H-bomb confronts us with the end of this civilization. It is old stuff to say that after the H-bomb the only surviving fighting man will probably have to fight as an infantryman. But it may well be true . . . and what are we doing about it?

Knowing these things, we go on, thoughtlessly, becoming more and more dependent on our complicated machines and complex way of living. We seem to take pride in doing, by devious maneuvers, what used to be done simply. We love to do by machine what was done by hand. It was not done as efficiently, perhaps, or as often, but maybe it was done better. There is a law of diminishing returns in these matters . . . a law we tend to neglect in our routine-filled lives.

Let us suppose the H-bomb war does start. For the first time in a hundred years there will be devastated cities and dying civilians in the United States. The enemy, if he is smart, will probably strike in winter, perhaps during the Christmas vacation when we are relaxed and disorganized and the cities are packed with people. We have read of the probable consequences but have we really visualized them? Of course we haven't

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because, even after two recent wars, very few of us have seen mass slaughter and destruction. And memory dies, even in man. The antelope walks past the lion who is eating his brother. We quickly ignore relatively minor horrors such as the Hungarian revolt and jive with Elvis Presley.

But we are talking about problems engendered by our complexity. Let me give some examples.

In the city of Vancouver, Canada, in the winter of 1956, a transformer in a key power station broke down in rush hour. It was dark. Traffic lights went out and, downtown, the worst jam in history defied police efforts for hours. Electric buses stalled in the streets made the problem worse. With the power off, furnace blowers stopped; houses got cold; dinners congealed in the ovens; housewives groped in the dark, trying desperately to remember where the Christmas candles were stored. Fortunately in the Northwest many homes have fireplaces, so they were not quite helpless. Outside the homes there was chaos. Gasoline pumps wouldn't work and cars ran out of fuel; bread production stopped in bakeries; milk bottles stood unfilled in the assembly line; meat warmed up in the refrigerators and bacteria stirred from their sleep and began to proliferate. The whole machinery of life halted. It was hours later, after power was restored, that life as we know it, returned to normal. And that was only a temporary block in our civilization's nervous system; one minute peripheral ganglion out of action!

Now let us go to Korea, early in 1951, to the Wolfhound Regiment on the line. There is a battle in progress and the casualties are coming in. The lights in the Collecting Station flicker as the generator, used all day to power the dentist's drill, and all night to light the treatment area, finally coughs and stops, worn out by overwork and lack of replacements. There are no old fashioned wick-type hurricane lamps in the modern U. S. Army Medical Company. Mantles and globes for gasoline pressure lamps are fragile and generators, supposed to take leaded gas, still plug up. All are slow to be replaced. We work, using electric torches, and the doctor, without a head lamp, does his best by the spot of light directed by a G.I. who should be busy somewhere else. (Nowadays the Aid Station probably would have a battery-power operating lamp, a big one of course, since he has a truck, but batteries "conk" out quickly in zero weather and the thing is impossible to carry unless you can use motor transport). The casualties are attended eventually using the torches, but the strain has been great and much time lost. Our complicated machinery, once it breaks down, leaves us far worse off than those who rely on simpler methods.

Up front the fight continues and the weather is bad. Supplies are desperately needed but the roads, churned to a pudding by countless wheels, are almost impassable. From the road's end there is still a long way to go. Weary soldiers and Korean porters (will we always have native porters?) struggle through the night along narrow mountain trails to bring up the ammunition and carry back the wounded. There certainly are not enough American litter bearers for the job and though the Koreans are worth any two Americans for carrying purposes, even they are exhausted.

Where are the mules? They are back in the Z.I. fighting a rearguard action against the internal combustion enthusiasts who, apparently never having heard of Italy or Korea, managed their expulsion from the Army some five years later. What about the helicopters? Well, it's a steep mountain, it's dark, it's sleeting and it's generally a hellish night, a not unusual thing in winter mountain warfare. So these overly praised, extremely expensive and definitely limited machines are grounded back at the MASH where the pilots, first class men by the way, can do nothing but play rummy and wait.

I understand something called an Airphibious Unit replaces "them ornery mules." But can this unit eat grass and keep going day after day? Can it fly regardless of

weather and terrain? Will we risk such expensive machinery in a rain of shellfire like that we felt in Italy? Can the machines be replaced for a few hundred dollars? Can their pilots be converted from ordinary G.I.'s by the hundreds in a few weeks, without expensive training? Will we want such expensively trained and highly skilled men wasted in trying to save a couple of ordinary dog faces? We did it in Korea without enemy air opposition and with relatively little enemy shellfire. Will we do it where he has at least equality in the air and on the ground? These are rhetorical questions. To me the answer is an obvious "No." If for no other reason, we couldn't afford it, either in dollars or in men, in an all-out war. Then somebody will ask me . . . "Can you find the mules"? Unless we do something about it that answer will soon be "No" too. Incidentally, after the Suez canal was blocked, the price of horses in France rose astronomically. Tractors sat uselessly in the fields. Fortunately for the French they still had enough horses to get the ploughing done. What would we do here if our oil fields were blown up or sown with radioactive dust so we couldn't get at the oil?

It is still 1951, but summertime. A young, keen medical officer comes to see me. He needs help from someone who once lived in a simpler way and fought a simpler war. His unit has pushed forward into the hills where roads cannot follow. The route back to the Aid Station gets longer and rougher. At last the Station must follow if it is to save life. But we are mechanized. Our equipment is packed in steel boxes designed to be dropped from aircraft, to be carried by jeep, to float in water but not upon the back of a poor medic. How many Americans today can pack 100 pounds over steep hill trails day after day? The French-Canadian voyageurs did it. The Chinese and Koreans can still do it, but legs used to being wrapped around a soda fountain stool will not endure such torture. So we scurry about and improvise light loads using borrowed infantry packs and away he goes. I tell him something about how to cross rivers without benefit of engineers and how to rappel down cliffs when there are no mountaineers to help. He has read about that a little. He has never done it because he was trained in San Antonio, where, since the drought, you can jump across the river, and the biggest cliff is a bank building. Our evacuation system depends too much on machinery; too much on getting mechanical transportation. We are not really trained for anything else.

We do carry a lot of equipment into battle. And we leave it there. Anyone who has ever followed an American force in war will no longer wonder why the natives are soon looking like soldiers. The countryside is strewn with excess equipment. We have equipment for hot weather; for cold; for dry cold; for wet cold; desert; jungle; dry heat; wet heat and so on. When we fight in territory where many of these climatic conditions may be present, the soldier, moving up to the Replacement Company, looks like Santa Claus staggering out for his first visits on Christmas Eve. It is true that other armies are never as comfortable as we are under any one set of conditions. We stay cooler, or warmer, or drier as the case may be PROVIDED that we all have our gear; but once the fight starts and the infantryman must use his feet and carry his pack he starts to suffer. His field coat, so wonderful in the foxhole, is too heavy and he throws it away only to freeze when he stops to rest. His vapour barrier boots were warm and snug when he stood still. Now, after a long forced march his soft feet are bathed in sweat and the skin, if it hasn't peeled, looks like a washerwoman's hands. He hasn't a change of socks . . . why bother when the trucks constantly bring up fresh laundry. But the trucks can't come today and the N.C.O. forgot the routine foot inspection.

The emergency rations are a miracle of condensation but they get tiresome very soon. Our lovely field kitchens can't easily be manpacked into the hills. The marmite cans keep food warm only so long and the kitchen truck with the K.P.'s is still miles behind. Yes, the elaborate equipment is great,

back in B Echelon, where the quick frozen turkey is now browning nicely in the ovens. But the doughboy who risked sneaking across the snow and mud at Cassino to trade cigarettes, lemonade powder and chocolate bars with the "Limeys" for a pan of poor but hot meat and vegetable stew and a steaming mug of tea, prepared right on top of the mountain under shell fire with the help of a portable blowtorch gadget, will never forget it. His young brother in Korea, alternately living like a king on steak, chicken, ham or turkey one week in reserve or on greasy cold hamburger patties, sausage or ham and lima beans, congealing almost as fast as they warmed over the little "canned heat" tablets, and washed down with lukewarm coffee powder . . . I'll not call it coffee . . . would probably agree. It is better to eat simple fare, hot and comforting, up front where it is really needed, than to feast in the rear echelon. Morale and hot food go together; both are needed in sight of the enemy.

What about our medical equipment and its use? One of the simplest items we have is the field dressing . . . the old Carlisle bandage . . . in various sizes. It takes a beating in its strong packet, it provides sterile dressing pad and bandage all in one. Yet I remember a Division Surgeon from Korea telling me it was no good. His units wouldn't use it because in our wealth of equipment, four-by-fours of gauze (in flimsy packets of doubtful sterility), cotton and roller bandages were also available. Three separate items were preferred to one! Why? Because these items were familiar in civilian life and nowhere, not even today, is there an adequate manual of instruction showing the multiple uses of this ingenious dressing. So, we still go on with hours of instruction on fancy spicas, spiral reverse bandages, etc., which, after years of soldiering, I still can't remember and almost never use. After I showed this Surgeon how versatile the Carlisle is, in its simplicity, he admitted he had neglected a very useful tool. Now, with ten million casualties lying around, wouldn't it be better to stockpile one item in its three sizes which we could load into open trucks with a steam shovel if we had to, rather than dozens of different sized packets of gauze, cotton and bandage?

The Army Leg Splint is another example. Simple to use, if used properly it is lifesaving, as World War I proved. Today, the young doctors, learnedly discussing Kirschner wires, Kuntscher nails, Smith-Petersen pins, pegs, plates, nuts, bolts and screws, have never used it and must be taught to regard it with proper respect. Judging by official reports from Korea and what I have seen, some of them never did learn, to the detriment of the casualty. The wire ladder splint is another simple gadget, almost as good in its way, and equally neglected. Many a patient was still being sent to the Receiving Section of the Army Hospital where I last worked in the United States with no splints on his fracture, when the dispensaries from which they came were supposed to have adequate supplies of this item. I cannot believe it was callousness and neglect. It must have been forgetfulness of the simple old rule "Splint them where they lie," plus a civilian tendency to send everything to the hospital in a panic, without thinking. When the hospital isn't just a few minutes away, what will they do? The old country doctor, knowing it would be a long time and a rough journey, carefully splinted the patient. Now, with the motor and smooth roads, the tendency is to skip the splinting.

I could go on enumerating examples gathered from two wars and some years as a general practitioner but I believe my trend of thought is clear enough. My thesis is this. In a war which may disrupt our country so as to make highly integrated procedures and processes unworkable, victory is likely to go to the side which can most quickly and successfully revert to simpler, even to primitive methods; and further, the time to start using such methods, at least in practise, is NOW.

There are those, bound to our comfortable way of life, who will insist that "Science will find a way." To them that thought has almost religious significance. Perhaps they are

right. But can we afford to be wrong?

When I say revert I do not necessarily mean retreat. I mean return in the sense of using older, simpler and still effective methods, but also I mean to use our science not to devise more complicated machines, but to simplify deliberately, in all possible ways, the new methods of doing things. We have already done this in many instances. Defense against tanks used to be limited to towed artillery which got bigger and heavier along with the tank. The bazooka, an essentially simpler device, changed the picture drastically. The recoilless rifles are doing the same in artillery circles. The jet engine, aside from metallurgical problems, is a much simpler engine than the piston-driven plane and the ram jet is practically a flying stovepipe. Here we have simplicity made possible only by an advanced technology. Now the Air Force could fly its jets above me and I could use that old hurricane lamp on top of the mountain, and we both would use the same fuel.

There are many other examples . . . printed circuits on ceramics in radio, plastic bottles for medicine and blood, antibiotics in disposable syringes and so on. Unfortunately some inventions tend the other way. The complicated modern truck is not as easy to patch up and keep running after minor break downs and the system of replacement is vulnerable to bad roads, shelling on roads and so on. Signal communication systems require experts to work them. I wonder if there is a set of flags or a heliograph outside of a museum and yet, if our cities were blasted our radio batteries would be difficult to replace and telephone wire might become a priority item if power shortages halted our manufacturing plants for long periods. Radar, guided missiles, electronic computers and such items are terribly complex; their usefulness is undeniable. It is improbable that they will ever be simple but that should not stop us from trying. The American frequently links the words, "Bigger and better," as the core of his philosophy of life. It is not necessarily so. "Simpler and sounder" pleases me more. Certainly if we are to use the new atomic divisional groups to fight widely dispersed actions, we will have to consider, very seriously, the validity of these mottoes.

In addition to simplification of machinery, I believe we must simplify in other ways. One of these is planning. Not long ago an article on the U.S.S. *Bennington* disaster appeared in MILITARY MEDICINE.[1] The procedures used in evacuation and treatment were admirably described, but I take issue on one major point. The author presented the article as "an object lesson for the management of possible disasters in the future." He also stated "Duty sections consisting of six medical officers, four nurses and twelve hospital corpsmen were established on eight hour watches for each of the four wards." This apparently was continued for ten days. Yet the total number of patients hospitalized was eighty-two. Unless I misunderstand him, this means a total of seventy-two doctors on duty or on call in one day for eighty-two men. I didn't count the nurses and corpsmen.

Now, I ask you, when the mass casualties amount to ten million, where are we to get the more than eight million doctors this sort of planning would require? And will we have time and facilities to work eight hours shifts in well prepared hospitals? The experiences of recent tornadoes, explosions and so on will soon bring us to realize how impractical this all is. The article is an object lesson, all right. A lesson in how we will not be able to handle anything but minor tragedies! For two years during the Italian campaign I commanded an Indian Field Ambulance Company. Out of fifty men, I had two British medical NCO's and two Nursing Sepoys. The rest were tribesmen trained only in the most elementary first aid. They were stretcher bearers, cooks, sweepers, etc. Yet, in one night at Cassino I evacuated about one hundred men, Americans, British, Indians, French and Arabs. Now in battle there is room to attend to only a few men at a time because they have to be carried about, given food or fluid, be documented, have medical treatment, be loaded on transport and so on.

Most of the medical corps personnel, therefore, are not doing medical work beyond possible emergency first aid that all soldiers should know. To put it bluntly, there's room around the pot for only a few cooks. The rest might as well be helpers. In Korea, in the Aid Station of 1st Battalion Wolf-hounds, I did much the same thing under rather similar circumstances. I had one officer (MSC) and twenty-four men in the section but, although in theory they were all well trained aidmen, in fact sixteen of them were infantry recruits who had no medical instruction beyond what we gave them on the line because at that time aidmen were in short supply. The same situation held in the rest of the regiment.

As far as I can tell, our work with the Indians at Cassino and the infantry retreads at Kumwha was as good as at any time subsequently when, as Regimental Surgeon, I had so many medical NCO's I couldn't get privates for details. I honestly do not believe that we need as many highly trained men as our T/O calls for. What we do need is tough experienced soldiers who can get the casualties out for treatment. In a war of movement and isolated actions this may be even more important than it has ever been before. The simpler the organism, the harder it is to kill. The same goes for organizations.

Another way of simplification is most unpopular but may well become necessary. I refer to austerity. I understand that in England, under strict rationing, the health of the people improved. It would be almost impossible, at least in peacetime, to deprive our boys of their soft drinks, ice cream, candy bars and such items as excessive food in the mess halls, in units where little hard physical work is done but the caloric allowance is the same as for active field soldiers. It would be possible, except for the national aversion to violent exercise, after graduation from high-school, to see that all of us got more physical training. These are questions of discipline and policy. I believe there is no doubt, medically speaking, that we would be in better health if such austerity were improved. I do not say I would like it. Football teams do not become fit by eating cream puffs and playing tiddley-winks, yet many medical corps units, knowing these things, still do not emphasize physical fitness, or, if they do, set a sorry example to their patients. Too many commanders take great pride in their football squads or other teams while neglecting the fitness both of themselves and their men. Sitting on the bench rooting for the team hardens nothing but the arteries and the tail end.

Are there other ways to simplify? Of course there are, and one of these is administration. A very detailed article on tracking down epidemics of diarrhea appeared this year in MILITARY MEDICINE.[2] There is no doubt that, if the measures advised are taken, the epidemic should be traced. It refers to peace time investigations of course and is intended for the use of dispensary, i.e. unit surgeons. Among other recommendations the authors suggest the printing of detailed questionnaires—preferably in large numbers, apparently so that the statistician gets enough for the "Chi-square" Test. There are numerous charts to be made out, groups of interviewers resembling the recent election pollsters, analysis of numbers of stool specimens and a great deal of telephoning, writing, calculating and so on. The crowning statement to my mind is "this system is characterized by the use of untrained personnel . . . and by statistical analyses so simple that they can be carried out successfully by medical officers . . ." and again, "Only a few hours time is required for interviewing an entire company and because the men are brought to the interview in increments, no man need be kept from his duties for more than an hour." That, to me, is the essence of peace-time garrison-type thinking! Except perhaps for units in reserve, it has no more applicability to a war or disaster situation than a stationwagon has to troop transport. In the units in which I served in combat, such an investigation would have been impossible both because of time and space dispersion of troops, and because of a lack of

personnel and equipment able to be spared from other essential activities of war. I cannot imagine myself trying to figure out a Chi-Square rule in a front line medical company even if I could find the space for books or locate a statistician among the aidmen.

Why do we not get away from this peacetime complexity and use our brains instead to figure out what to do in war or chaotic situations? That's what we have an army for! And that's when the real epidemics break out too. I remember a typhoid epidemic among the refugees in San Marino after that tiny republic was overrun by the Germans. We did not have time to track down the source. We assumed that all the wells were contaminated and all civilian food sources suspect. We also had had our immunizations and we checked these as best we could at company level. It took only verbal orders to reiterate well known army principles such as "Drink only treated water; stay away from civilian food and drink." Then it was up to our disciplinary people—the corporals, sergeants and so on. We moved fast as the battle went on and none of my men got sick. Perhaps the statisticians following us had a field day with the case histories. In a real disaster they wouldn't have the time even if they could find the paper.

There are other examples of administrative complexity. On a recent overseas move I had so many copies of orders, amendments, etc., I could have written a book on the backs of them. Here is a fertile field for someone to save wood pulp. I travelled all over the world during the war with one little letter which I showed as I went along. Why can't we do it now? Medical records could be spruced up, I'm sure. We write letters to "get it on the record" so we can prove later that we said what we did. My foreign friends tell me we are a nation of paper shufflers. Having had to do things their way, for some years, I am inclined to agree. Perhaps the price of paper in their countries has something to do with it. But we may be lucky. The first H-bomb may knock out a paper warehouse or two. If it does I shall expect a return to verbal orders. There may be more misunderstandings but I believe things will be done faster with no semantic double-talk in five copies.

Our MOS system also is very elaborate and looks good on paper, but my experience over the last few years is that, for every officer or man I get who really has the MOS I need, I probably get at least one other replacement who has never worked in the MOS slot he is sent to fill. I myself have had command, staff, parachute, pathology, internist and obstetrician MOS's in the past six years, and yet the only formal military or medical training I ever had aside from internship and some pathology, was three weeks at the airborne school. Recently, with the loss of trained men, the situation has become worse. Why keep kidding ourselves? Let's have a few basic MOS's and simplify the whole business. We can't go back to the concept of the soldier doing everything, I agree, but we need not complicate our system unnecessarily.

One fertile area for simplification is in training. I refer, in the medical service, especially to the young doctors who "volunteer" for their two year tour of service. Now these men are not interested in the Army or they would really volunteer for the Regular Army. We have to use them to our best mutual advantage. Therefore, it would seem logical that one should get as much WORK as possible from them and then let them go home, rather than to send them to school for training in organizational matters. Remember, nowadays most of them have just finished their internship. So where do they go? To military hospitals and dispensaries for the most part where they spend the rest of their tour doing what their M.D. and internship trained them for. Or some go to field units. Why don't we just assign these young men, as I and many others were assigned in wartime, to their units, and let the experienced officers and NCO's there tell them what they need to know. It would be just as good and a lot simpler.

The same holds true for the enlisted man after infantry basic or its equivalent, aside from some specialty courses, and I even wonder about many of these. In these budget conscious days there is no place for all this "schooling," if indeed there ever was. The career soldier is a different case entirely. I have no objection at all to spending some time and money on him.

There is another way to simplify. This time I mean a reversion to older ways. In the medical field this could mean cutting out the multiplicity of drugs and equipment. If the A-bomb hits, generators will be needed badly back in the big hospitals where the power is cut off. I can do first aid by coal-oil lamp I'm sure, on most occasions, and certainly in such a disaster (but I've got to have the lamp on my T/E, not in some catalog). We could limit the variety of drugs and antibiotics. Those who want the latest model 1957 antibiotics should pay for them and the others, including me, get along with just three or four which are of maximum usefulness, with a few others available only in real need, such as a demonstrated sensitivity or resistant organisms in serious disease. Nowadays in our military hospitals the choice of drug is not noticeably limited and some very expensive items are used unnecessarily. Simplifying labels and colours, shapes and sizes of pills would be a great help. In an emergency I haven't time to find out if X-mycin, a little blue pill, is the same as y-micen, in a green capsule, or Z-MIZIN which is a red lozenge. It would be comforting in a disaster to say to the layman helping me "Give these fifty patients Q-mycin" and know that he would find all the bottles the same, clearly labelled and with the adult dose on them.

The same idea holds in other departments. Let me tell you the tale of the shirt. The other day I went to buy a new summer shirt to go with shorts. They are undoubtedly cooler than slacks and long sleeves, so after laughing at our allies knobby knees for the last thirty years or so, we have finally decided they aren't so stupid. But what do we do? We design a new shirt with the sleeves cut off and a different shape of collar, of the same color and material as the khakis. Why couldn't we just roll up our sleeves, and roll them down against the mosquitoes at night? It would immediately reduce by half the types of shirts needed. Now this cloth is heavy and hot . . . for durability, I suppose . . . of shirt, not of wearer. What's wrong with poplin? Our allies use lighter materials and think it worth while for comfort's sake . . . and they can't afford to waste money either. Using a lighter shirt for all three purposes would cut one more type from my wardrobe. One shirt, one shade, four uniforms! That would be simplicity. It may be good for a soldier's morale to have a varied wardrobe but considering the cost in money, space and trouble I believe we are well into the curve of diminishing returns of which I spoke earlier.

Now all this talk of simplification is really just the preamble to the crux of the problem. Unless our philosophy of life is simple it is doubtful if we will ever turn from our present pre-occupations to another way. The old frontiersman, it seems to me, had an essentially basic hardness of mind, what you might call a "Down to earth philosophy" shorn of much of the rationalization which makes most of us reluctant to abandon our comfortable materialism. His life was a dangerous and lonely one. It might be said that he was constantly at war . . . with natural forces, with the savage Indians, the civilized British and French, and his own weaknesses, to which he could not pander and survive. Today our enemies are partly visible, in the Communist philosophy, but partly hidden, in the fallacies of our technological civilization. Being the more insidious they are the harder to fight. And we aren't as good fighters as that old-timer was.

In conclusion, to comfort myself somewhat on this exposed perch that I have taken, I would like to quote an excerpt from a speech given recently by A. Whitney Gris-

wold, President of Yale University, speaking on "The Liberal Arts and Democracy," at Hartford, Connecticut:

"This country began as a political and moral philosophy. Some day we materialistic Americans will rediscover the importance of these things which lie much closer to the source of motive in civilization than the mechanical marvels of its technology. When we do, when some miraculous power, which let us hope, may not present itself in the form of atomic catastrophe, arouses us from our childish infatuation with toys and gadgets, we may discover how to supply the things we need to save our minds and our souls."

REFERENCES

[1] The U.S.S. *Bennington* Disaster. MILITARY MEDICINE, 116:278 (Apr. 1955).

[2] Epidemiological Investigation of Diarrhea Outbreaks. MILITARY MEDICINE, 119:11 (July 1956).

"... a proper respect for teaching involves letting the teacher *teach*. Our society should not press upon our schools and teachers a variety of functions that belong in the home or the church or in some other community agency. It is desirable, of course, for teachers to play a full and active part in community affairs. But teachers are too often considered errand boys or workhorses for all kinds of community activities. This practice detracts from the time and effort they can devote to teaching and to their essential civic responsibilities. And within the school itself, our educational processes often could be improved if teachers were less tied up with clerical work or other routine chores and given more time for their fundamental task."—MARION B. FOLSOM, Secretary of Health, Education, and Welfare before convention of American Association of School Administrators, St. Louis, Mo., February 22, 1958.

Symbolism and Armed Forces Medical Insignia

By
JOSEPH HIRSH*

(With four plates)

CONTRARY to popular belief, the caduceus of Aesculapius is by no means the single, or, for that matter, the main insignia of the medical services of the armed forces of nations throughout the world. The range and variety of these insignia are enormous. They include such disparate forms as the Caduceus of Mercury, the Geneva or Red Cross, variations of the Maltese Cross, to singularly unmedical or unreligious symbols such as stars on a background of cloth and the crossed rifles of the infantry.

TRADITIONAL INSIGNIA OF U. S. FORCES

Two insignia for centuries which have been associated with the medical profession as the marks of the surgeons and surgeons' mates were the caduceus, or serpent wreathed staff of Aesculapius, and the oak leaf and acorn.† The caduceus was the classic symbol of the Greek god of medicine. The oak leaf and acorn were the insignia of the Druid physician-priests whose white robes had embroidered on the sleeve in gold the oak leaf and acorn.

The history of the development and changes in U. S. Naval[1, 2, 3, 4] and Army[5] Medical Insignia are well-documented. The ancient quarrel concerning the validity of the use of the Aesculapian vs. Mercury's caduceus has also been thoroughly aired, with the final fillip executed by the distinguished military medical historian, Fielding Garrison.[6] A brief recital of the developmental history is given here only as a backdrop for the descriptions of the armed forces insignia included in this report. Insignia from twenty-nine countries are described here. They were selected from a much larger group for one or more of the following reasons: Their uniqueness or beauty; their representativeness of the insignia of many countries; their representativeness of important mystical or medical symbols.

U. S. NAVY INSIGNIA

In 1830 the oak leaf and acorn first appeared on naval officer's uniforms. Leaves of live oak, interspersed with acorns were originally embroidered on the collars and cuffs of all officers.

As a corps insignia, medical officers wore the staff of Aesculapius, which had first been introduced in 1826. Of this insignia, Roddis said that it was disproportionately large, and "was probably the ugliest device ever worn, and a patient, especially if his gastritis has been induced by alcohol, would have been sorely distressed by the huge snake on the medical attendant's collar."[7]

In 1847, five years after the establishment of the Bureau of Medicine and Surgery, the lace on the cuffs of the medical officers was removed and sprigs of live oak substituted. In addition, they wore gold epaulets with the letters "M.D." in old English characters, done in solid silver and mounted on a crescent. In September, 1852, the "M.D." lettering was replaced by a sprig of olive.

The various corps were again assigned insignia in January, 1864. Officers of the Medical Corps wore a silver oak leaf in a vertical position within the gold wreath of their caps, but unlike line and staff officers they did not wear the corps device above the sleeve stripes or on the shoulder straps.

By 1869 line officers wore the gold star above their stripes; staff officers wore colored cloth between the stripes. The color designated for the Medical Corps was cobalt

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† Sprays of live oak have been a favorite, however, of military uniforms in general and not only of the medical service.

TABLE I

DISTINGUISHING COLORS OF MEDICAL INSIGNIA OF VARIOUS FOREIGN NAVIES

Argentina	Red between stripes on sleeve
Chile	Red between stripes
China	Red between stripes
Denmark	Red between stripes
Finland	Red between stripes
France	Green velvet between stripes
Great Britain	Scarlet cloth between gold stripes on sleeve
Greece	Purple velvet between stripes
Hungary	Black velvet between stripes
Italy	Blue between stripes
Japan	Red between stripes
Norway	A red passe poil above stripes
Portugal	Red between stripes
Rumania	Dark red silk between stripes
Spain	Red between stripes
Sweden	Scarlet cloth between stripes
Turkey	Crimson between stripes
U.S.S.R.	Color band on cap and collar tabs, dark gray piped with red.

blue. Such interstitial colors are not only traditional to other navies (See Table I), to the U. S. Public Health Service, but to armies as well.

In 1883 the cobalt blue cloth was replaced by maroon velvet* and a distinctive device was introduced. This was a small Geneva Cross of maroon velvet set within a silver Maltese Cross, of which the present day Uraguayan Army insignia is a variant (See Plate I). This was a combination of crosses, both of which had medical significance: The Red Cross of Geneva, connoting immunity in battle for medical personnel, and the Cross of the Knights Hospitallers of Saint John of Jerusalem, connoting Christian charity, welfare and medical care. In 1886 this device was replaced by the present insignia but it was not until 1919 that the interstitial maroon stripes were removed from the uniform. The Geneva Cross, however, has remained the insignia for enlisted personnel of the Medical Department and as a medical symbol on ambulances and other Corps vehicles.

U. S. ARMY INSIGNIA

The history of U. S. Army Medical Corps insignia is far less detailed or complicated than its naval counterpart. The Medical Corps of the U. S. Army formally dates back to 1818. The Corps, then called the Hospital Department, was headed by Surgeon Generals, Physician Generals, Surgeon Mates and Apothecary Generals. Prior to that time the office of the Surgeon General had been vacant after the disbandment of the Army in 1815 following the war with the British.

During the regime of Surgeon General Lovell a short-lived coat-of-arms came into existence which Potter described in his fascinating little monograph[8] on serpents in art and medicine. "This coat-of-arms," he wrote, "has twenty stars in the blue field" (on the left side of the shield). Signifying the number of states in the Union at that time. . . . On the right side of the shield was the Aesculapian staff and snake; surmounting the shield a rooster, which Garrison[9] called the Aesculapian rooster. Beneath the shield was the motto EXPERIENTIA ET PROGRESUS. Potter states that "no definite authority for this coat-of-arms by the Medical Department has ever been found. . . ." Mysteriously as it appeared so did it seem to vanish.

The Medical Corps caduceus (of Mercury) first made its appearance on the uni-

* Which is also the Medical Corps Color of the U. S. Army.

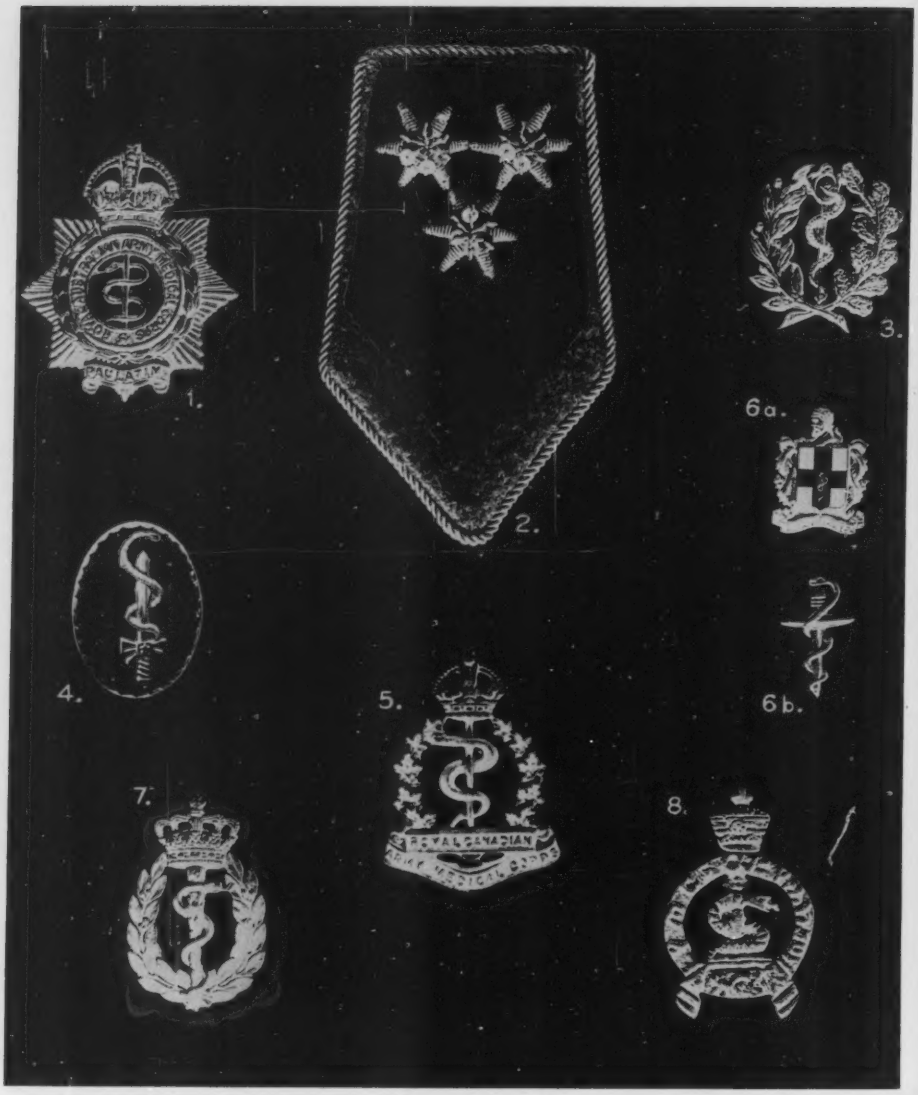

PLATE I

1. Australia. 2. Austria. 3. Belgium. 4. Brazil. 5. Canada. 6. Columbia, (a) Cap Crest, (b) Lapel. 7. Denmark. 8. Ethiopia.

forms of hospital stewards in 1856 where it appeared on the chevron, probably adopted from the U. S. Public Health Service which had used it for some time previously. Forty-five years were to pass before there was a general revision of the Medical Corps and its uniforms. Finally in 1902 the caduceus as we know it today was formally adopted as distinctive collar and lapel insignia of enlisted men and officers of the Medical Corps.

TABLE II

DESCRIPTION OF ARMED FORCES MEDICAL CORPS INSIGNIA IN PLATES I–IV

Australia	This specimen is the cap insignia and measures 3.7×4.2 mm.* It consists of a golden serpent entwined about a rod as the center-piece, surrounded by a circle bearing the legend: ROYAL AUSTRALIAN ARMY MEDICAL CORPS. This circle is in turn surrounded by a laurel wreath from which emanate an eight-pointed star of rays. Topping the insignia is the Royal Crown. At the base is the legend: PAULATIM. The lapel insignia is an exact replica of the cap crest but measures 2.6×3.1 mm.
Austria	5×8.5 mm. Collar tab of black felt on a cobalt blue field which is fringed by gold cable band. Three 6 pointed gold stars, denoting Captain's rank, are afixed to the black felt.
Belgium	2.5×2.8 mm. Gold covered snake entwined about rod topped by mirror. Snake's head superimposed on mirror as though the snake is looking at its image. Center-piece is surrounded by a wreath the right-hand portion of which is oak-leaf, the left-hand laurel.
Brazil	2×3 mm. Gold snake entwined about upright sword on black enamel oval shield which has a scalloped gold fringe.
Canada	3×4.2 mm. Thick silvered snake entwined about golden rod surmounted by Royal Crown. This centerpiece is surrounded by a wreath of maple leaves at the base of which is a banner reading ROYAL CANADIAN ARMY MEDICAL CORPS. The specimen included here is the cap insignia.
Colombia	The cap crest, 1.5×2.2 mm., consists of a white enamel shield on which a Geneva Cross is centered. Superimposed on the Cross is a golden snake coiled about a rod topped by a mirror into which the snake seems to be peering. The lapel insignia, 1.3×2.1 mm., is a sword pointing downward about which a snake is entwined.
Denmark	2.4×3.8 mm. Gold snake entwined about Herculean Club in the center; surrounded by wreath of laurel leaves; surmounted by the Royal Crown. The emblem is backed on maroon cloth.
Ethiopia	2.5×3.6 mm. A circular gold legend in Amharic which reads, beginning at 8 o'clock, IMPERIAL ARMY MEDICAL CORPS, and topped with the Imperial Crown. The traditional snake entwined about a rod constitute the center-piece.
Finland	Blue cloth tab measuring 3.6×9.7 mm. has a double gray border. The medical symbol consists of a serpent entwined about the Herculean Club. The "pips" denote rank. The figured specimen is that of a Colonel.
Greece	A laurel wreath 2×3.7 mm. surrounds a center-piece consisting of a golden serpent entwined about a rod. The serpent's head with gaping jaws is superimposed on a mirror on top of the rod. A small circular "pip" consists of a snake coiled about some *fasces* surmounted by a mirror. Both elements of this insignia are backed on a maroon cloth shield.
Hungary	Gold chalice measures 1.6×1.7 mm. A serpent is entwined about the stem and overhangs the open bowl.
India	This specimen of the cap crest, measuring 2.7×3.8 mm., consists of a silvered serpent entwined about a silvered rod surmounted by an elaborately-engraved pedestal on which three Ashoka lions—one frontal and two lateral—are standing. A laurel wreath surrounds the center-piece at the bottom of which is a banner bearing the legend; ARMY MEDICAL CORPS. The lapel insignia is an exact replica of the cap crest but measures 2.2×3.3 mm.

* Maximum dimensions are given throughout.

TABLE II (*Continued*)

Iran	3.2×5.7 mm. maroon cloth insignia, fringed with heavy gold cable. Center-piece is a long-stem bowl about which two serpents are intertwined with their heads dipping into the bowl.
Iraq	A circular gold laurel wreath 2.5 mm. in diameter surrounds a center-piece of the serpent entwined with a rod.
Israel	3.7×3.7 mm. dark bronze snake entwined about this rod surmounted by bowl and Star of David. This center-piece is surrounded by wreath of laurel leaves at the base of which is a banner on which are the Hebrew words meaning MEDICAL CORPS.
Jordan	2×2.6 mm. silvered oval of laurel leaves surrounds a torch about which a serpent is entwined.
Korea	This modified silvered Mercury's caduceus, measuring 2.5×3 mm., differs from the traditional form in that a torch substitutes for the rod.
Lebanon	Three specimens are shown: cap, lapel and breast insignia. Cap insignia, 4.5×5 mm., is a golden tree (of life) surrounded by a laurel wreath backed on maroon cloth. The lapel insignia, 2.8×3.6 mm., consists of a center-piece of a serpent entwined around a rod surmounted with a mirror into which the serpent appears to be looking. A laurel wreath surrounds the center-piece. The breast insignia, measuring 4×4.7 mm., consists of a Geneva Cross center-piece on which is superimposed in an azure circle of a tree (of life).
Mexico	Two specimens are shown: cap and lapel. The cap crest is a circle 2.1 mm. in diameter of a white enamel band on which is the legend EJERCITO MEXICANO in gold letters. The outer and inner borders of this white band are fringed with narrow gold bands. The center consists of a circular core of gold enamel with rays emanating from the hub. Rank "pips" are superimposed on this center. The lapel insignia, measuring 1.1×2.9 mm., consists of 5 gold *fasces* around which a gold serpent is entwined. The fasces are topped with an oblique mirror into which the serpent with gaping jaws appears to be gazing.
The Netherlands	5.5×5.9 mm. Center-piece consists of oval shield surmounted by Royal Crown. Superimposed on shield are the Herculean Club (Around which is entwined a serpent) which is crossed with a sword. Surrounding the center-piece is a skirt on the lower right-hand of which is the oak-leaf part of a wreath; on the lower left-hand is the laurel part of the wreath. The upper part of the skirt contains the motto ERIPIENDO VICTORIAE PROSUM. The larger of the two Netherlands specimens is the cap insignia, the smaller the lapel insignia. This insignia, 3×3.8 mm., differs from the cap insignia in two respects; in the absence of the motto and in the extension of the wreath components latterly and upward till it touches the Crown at the top.
Paraguay	The cap crest, 5.5×6.8 mm., is an oval of imperial purple cloth on which is centered a gold star surrounded by a wreath of unidentifiable foliage. The lapel insignia, 2.5×3.5 mm., consists of a golden laurel wreath surrounding a center-piece of two serpents symmetrically entwined about a torch.
El Salvador	This insignia is the crossed rifles of the Infantry, measuring 2×3.5 mm.
Spain	3.5×4.8 mm. deep maroon parallelogram fringed with silver; centered is a silver Maltese Cross surrounded by a silver laurel wreath.
Sweden	This staff and entwined serpent is the finest example of the Aesculapian symbol, in gold, measuring 1.2×3.8 mm.
Switzerland	Three specimens are shown, each measuring 4.2×5 mm. They are all of light blue cloth edged with yellow gold. The center-pieces vary as follows: one is the traditional Aesculapian serpent and staff; the second, a serpent coiled about a bowl; the third, the Geneva Cross in a circular white field.

(Concluded on page 263)

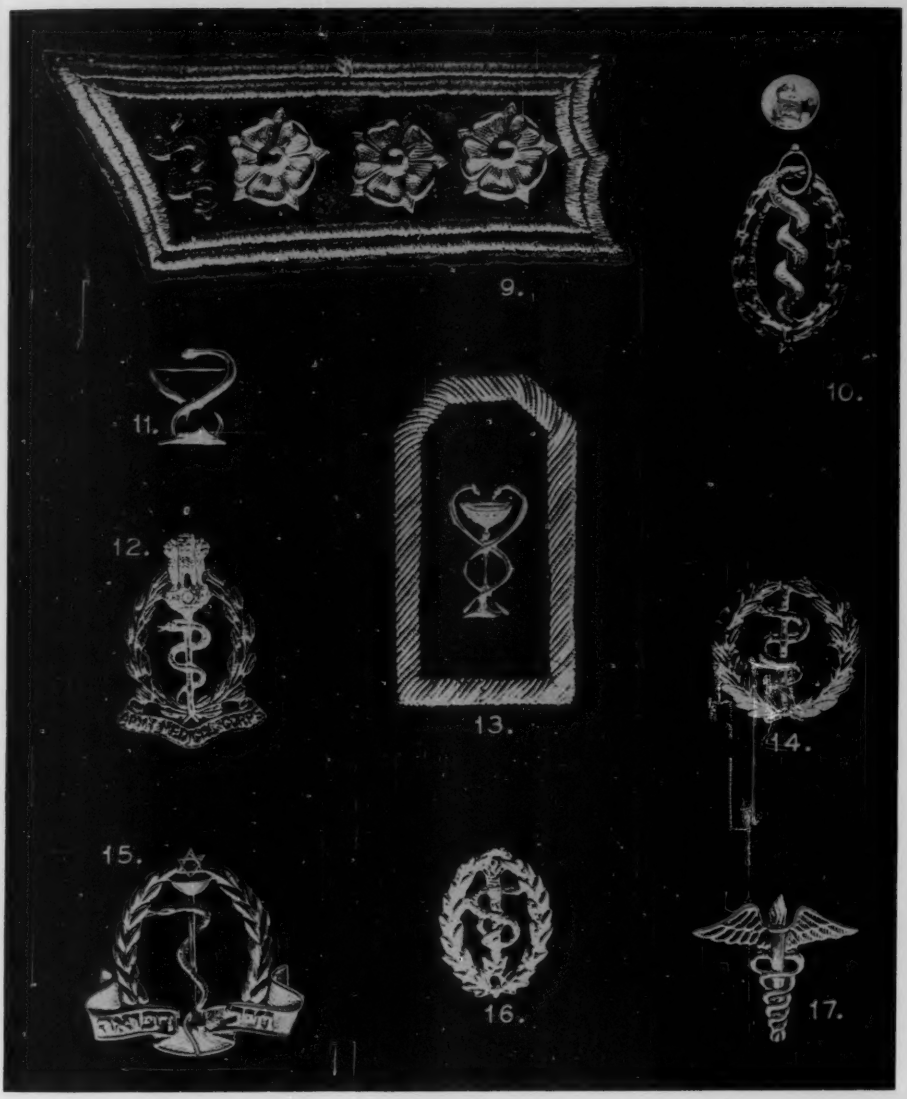

PLATE II

9. Finland. 10. Greece. 11. Hungary. 12. India. 13. Iran. 14. Iraq. 15. Israel. 16. Jordan. 17. Korea.

Since its adoption the only changes in this symbol have been the superimposition of letters denoting special services, i.e., "D" for Dental, "S" for Sanitary, "V" for Veterinary and changes in the color of the caduceus from gold to silver in the case of the Medical Service Corps and the Army Medical Specialist Corps.

U. S. Air Forces Insignia

As an independent armed force, the U. S. Air Force came into existence in the summer of 1947. Two years later its Medical Department was organized. In February 1956 its new medical insignia were adopted, as follows:

Chief Flight Surgeon—Silver wings with

PLATE III

18. Lebanon—(a) Cap Crest, (b) Lapel, (c) Breast. 19. Mexico—(a) Cap Crest, (b) Lapel. 20. The Netherlands—(a) Cap Crest, (b) Lapel. 21. Paraguay—(a) Cap Crest, (b) Lapel.

center shield on which a snake-entwined staff is superimposed. Above the shield is a star backed by a semi-arc.

Senior Flight Surgeon—Identical with Chief's insignia, except that it lacks the arc behind the star.

Flight Surgeon—Same as Chief's except that it lacks the star and arc.

THE STAFF AND THE SERPENT

A whole literature of mythology and history surrounds Aesculapius and Mercury

TABLE II (*Concluded*)

Turkey	1.4×2.1 mm. A golden snake is entwined about rod from which leaves project laterally.
Uruguay	This golden-hued plaque, 2.2×2.9 mm., is embossed with a Geneva Cross on which is superimposed a circle containing a smaller Geneva Cross.
U.S.A.	The Army specimen is the golden Mercury caduceus 2.5×3 mm. consisting of the two serpents entwined about a rod on either side of which are wings. The Navy specimen consists of an oak leaf 1.1×2.1 mm. superimposed on which is a tiny acorn.
U.S.S.R.	1.3×1.8 mm. A golden snake is coiled about a bowl.

and their symbols, the two most common hallmarks of medicine, respectively the staff entwined by the single serpent and the staff with two serpents intertwined and surmounted with a pair of wings. From this rich store we select some of the more palatable descriptions of these gods and the meaning of their symbols.

Ancient myths associated the serpent with wisdom. The serpent had a charismatic quality in various cultures. In India, it was held to be the progenitor of kings; in Egypt and Greece it was sacred to nearly all the gods. It represented immortality, probably because of its periodic shedding of the skin, and eternity because it was alleged to have swallowed its own tail. In various places and at various times the serpent represented knowledge, shrewdness, wisdom and freedom from disease. Some ancient groups felt that the human soul after death was re-embodied in a snake; others, that to eat a snake was to acquire powers of healing. The serpent was connected with all sorts of mysterious religious rites and closely connected with the healing arts.

Early Babylonian figures show the caduceus not as an emblem, but as a god in itself; in others it is carried in the hands of gods or goddesses as a sign of supernatural powers. This staff in its oldest form was a rod ending in two prongs entwined into a knot.

In ancient Greece, Apollo, the sun god, carried a staff. Apollo was a busy god. Finding that his other duties interfered with those of "Health Giver" he is alleged to have given his wand to Mercury in exchange for a lyre. According to legend, Mercury came upon two serpents knotted in battle and separated them with his wand, thus, the snakes with the staff thrust between them became his mark. A pair of wings, symbol of his swiftness, was a later addition.

The caduceus of Mercury became the sign of the pacifier, to be carried by heralds and ambassadors (who were thus immune to attack). Within this framework and in the light of the inherent symbolic meanings of the serpent and the staff, it is not too far-fetched to see how this caduceus might have become the symbol of medicine. It was only later in history that Mercury's caduceus became the symbol of commerce, banking and gambling.

In the present collection there are a number of examples of Mercury's caduceus serving as the symbol of the Army Medical Service in the United States and a number of other countries, *i.e.*, Costa Rica, Haiti, Luxembourg and Panama. In the Venezuelan insignia superimposed on the caduceus is an S, making it reminiscent of the now defunct U. S. Sanitary Corps. The Korean Army caduceus is a variant from two points of view; its color is silver and the staff is a torch topped by a flame.

The Aesculapian symbol, however, is easier to understand and accept as the mark of medicine. Its lineage is simple and direct. Apollo was Aesculapius' father. Man-raised and trained as a physician, Aesculapius wandered as he worked and his staff became both the symbol of strength and sustenance and of the physician making his

PLATE IV

22. El Salvador. 23. Spain. 24. Sweden. 25. Switzerland. 26. Turkey. 27. Uruguay. 28. United States, (a) Army, (b) Navy. 29. USSR.

rounds. The serpent also became the symbol of Aesculapius, representing eternal rejuvenation in the sloughing of his skin. According to legend, Aesculapius worked so well that he threatened to depopulate Hades. For daring to tamper with the laws of life and death, he was killed by Zeus, only to be admitted later among the gods.

By far the largest number of countries employ the Aesculapian staff and serpent as the primary symbol of their Army Medical Service. The purest expression of this symbol

seen by the author to date is that of the Swedish Army Medical Corps.

The Oak and the Acorn

Among the ancient Hebrews the oak was regarded as symbolic of the divine covenant, and some historians believe that by association it came to signify the divine presence. The Hebrew word, *allon,* which means oak also means oath. The root of this word, *al,* meaning mighty or strong, is also the origin of the name of diety in many ancient tongues. The Greeks, too, had a mystic veneration for the oak.

The oak is universally regarded as monarch of the forest. It is a symbol of strength and fidelity. It takes about 20 years before it bears acorns. This prolonged effort serves, therefore, as an appropriate model for physicians.

In addition to its other connotations, the oak has a particular naval association. Owing to the tree's suitability for boat building, it was particularly associated with naval exploits.

There are several examples in the present collection of oak leaves as integral elements of Army Medical Corps insignia, *i.e.,* Belgium and the Netherlands.

The Geneva and Maltese Crosses

The four arms of the so-called Geneva Cross stand for the four Christian virtues: temperance, prudence, justice and fortitude. This cross serves as the medical symbol on armed forces vehicles, hospitals and other installations of many nations.

The Maltese Cross, a striking variant of the Geneva Cross, is the hallmark of the Knights Hospitallers of Saint John of Jerusalem, regarded by many as the prototype of combat medical services throughout the world. Hume's[10] excellent history of this Order suggests that the Order's pennant insignia—a crimson flag with a white cross—served as the model for the Danish, Italian and Swiss flags, as well as that of the Red Cross Societies. In the latter two cases the field was reversed.

The Spanish Army Medical Corps insignia is the notable example of the Maltese Cross.

The Bowl and the Serpent

A chalice or handleless cup frequently represented Hygeia, the goddess of health, and daughter of Aesculapius. Her ordinary attribute is a serpent which she is portrayed as feeding from a cup. Though originally the goddess of physical health, she has sometimes been observed as a giver-protectress of mental health, thus as *Mens Sana,* identified with Athena Hygeia. The bowl indicates the administration of potions. There are several Army Medical Corps insignia with the bowl and serpent configuration, notably the U.S.S.R., Hungarian, Iranian and Israeli.

The Club of Hercules

As part of armed forces medical insignia this symbol is often confused with the rod of Mercury, the staff of Aesculapius or a torch (symbolizing light or knowledge). The Club symbolizes strength, and appears occasionally with foliage or branches of the bay tree or laurel.

The Danish Army Medical Corps insignia with its knobby club comes closest to the Herculean representation.

The Laurel

The leaves of the sweet bay tree used in cooking because of their pleasant, aromatic flavor, are supposed to have certain narcotic properties. As such the laurel is an appropriate medical symbol. It was with these leaves that heroes were crowned in antiquity. It is synonymous with courage.

Examples of the laurel* in Army Medical Corps insignia are to be found in those of Australia, Belgium, Cuba (cap crest only), Denmark, Greece, India, Iraq, Israel, Jordan, Lebanon (breast & lapel), Netherlands, Paraguay, Spain.

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* It is interesting to note that the insignia of the Royal Army Canadian Medical Corps utilizes Canada's national symbol, the maple leaf.

The Mirror

The mirror is a symbol of truth and goodness. In ancient times it was employed in many ways in spiritualism and in magic, by placing people under a spell. It was held to possess mild narcotic properties.

The Belgian and Greek Army Medical Corps insignia embody the mirror among other symbols.

The Pine Cone

The cone was an orgiastic symbol connected with the followers of Bacchus. They carried in their hands Thyrsus sticks, which were entwined with ivy and headed with pine cones (the Phallus). Originally the "god of vegetation," it was not until later that Bacchus became the "god of wine," when he had the power to reveal the future of man *(in vino veritas)*.

Crossed Rifles of the Infantry

This unlikely medical symbol is used in several countries, *i.e.*, El Salvador, Nicaragua. The Salvadorean Army actually has no Medical Corps but a civilian contract medical service with physicians given honorary ranks. When uniformed, however, they wear the insignia of the infantry.

Acknowledgements

The collection of Armed Forces Medical Insignia was started by the author during World War II. The largest part of this collection, however, was lost en route to the United States from the Mediterranean Theatre of Operations at the end of the War. Through the courtesy and cooperation of U. S. Military Attachés much of the collection described in this paper was reassembled.

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The Courageous Medics of Anzio, IV*

By

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17

DURING the hectic days when the fate of the beachhead was being decided by the defenders of the final defense line the Corps medical staff were busily occupied with the resolution of problems that also affected the ability of the Corps to remain on the beachhead. Of prime importance was the retention of as many effectives on the beachhead as was possible. The daily evacuation of the sick and wounded generated by battle and non-battle conditions was rapidly depleting the Allied forces of experienced combat soldiers. Included among these evacuees were many who had either only slight wounds or were suffering from illnesses which would not incapacitate them for any great length of time. Yet bed space was limited and what beds were available were urgently needed by our hospitals to care for those patients who were in immediate need of treatment. Both ambulatory and convalescent patients were evacuated to the Naples area in order to free more beds. Included in this group were such medical cases as malaria, the upper respiratory diseases and the venereal diseases. Most of the malaria cases were admitted as routine "colds," "Flu" or FUO cases and the diagnosis established in the course of routine clinical tests and the malarial organisms found in the patient's blood. It is to be remembered that all of the troops on the beachhead had previously served in Italy from the time of the invasion at Salerno (September, 1943) and many had also had service in North Africa, Sicily and Tunisia. All hospitals were taxed to their fullest capacities.

To alleviate the condition existing in the army hospitals I proposed two plans to the Corps G-4. One plan called for the use of a platoon of the 52nd Medical Battalion Clearing Station to operate a 200 bed hospital for the care and treatment of venereal diseases; the second plan was to organize a 400 bed Corps Holding Hospital using the personnel and equipment of the 33rd Field Hospital. In our static situation there was no requirement for a field hospital as utilized in the Fifth Army (to support Divisional Clearing Stations and care for "non-transportable" wounded). All patients could be readily evacuated from the divisional clearing stations directly to the evacuation hospitals as both types of medical facilities were occupying the same area. The surgical teams attached to the Field Hospital could be reassigned and used to augment the professional staffs of the evacuation hospitals. These two proposals of mine received the immediate approval of the Corps Commander. By operating these two medical installations under Corps control hundreds of troops could be retained on the beachhead until they were physically fit to return to duty. It is well known that the farther to the rear a patient is evacuated, the longer it takes to return him to the front.

Before continuing this narrative I wish to make it clear that we experienced no venereal problem on the Anzio beachhead. During a period of four months and with a peak strength of 135,000 troops in VI Corps there were only five reported contacts. Even with our method of statistical reporting we enjoyed a zero venereal rate. There was a reasonable explanation for this phenomenon —practically all civilians were evacuated from the beachhead. As soon as VI Corps occupied the beachhead there was a systematic effort made to collect the entire civil populace of the area and transport them to Naples on returning supply ships. This was a duty performed by the Allied Military

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Government and my liaison with that agency was through Major Leslie G. Norman, Royal Army Medical Corps. The removal of the civilians was accomplished because of the dangerous conditions existing on the beachhead and that their homes were being systematically destroyed by enemy action. Another major factor in removing the civilians from the beachhead was that shipping space did not permit supplying the beachhead with food to feed them. Many of these pesanos clung to their demolished homes while others sought safety and hid in caves but they were all hunted out and evacuated. Only a few were permitted to remain behind to care for their live stock which were also rapidly being depleted—some by enemy action and some by other means which afforded fresh meat in some of the troop messes. A total of 22,000 civilians were evacuated and only 750 able bodied allowed to remain on the beachhead.

The venereal patients we had to treat were either "old" or recurrent cases and the "new" cases which occurred in replacements and troops arriving on the beachhead. All troops coming to the beachhead staged either in the Naples area or in North Africa, two places where the incidence of venereal diseases and the venereal rates of our troops were high. This was the pre-penicillin era and the accepted treatment was with the sulpha drugs. Treatment of the venereal diseases could be accomplished on a duty status under existing policy but conditions were such that little control could be effected by medical personnel if this regimen were carried out under combat conditions existent on the beachhead. Troops occupying foxholes were unable to get to their unit aid stations and self administration of large doses of sulpha drugs without proper supervision was frowned on. It was my opinion that by getting these patients under supervised medical care where accurate diagnoses could be made and intensive treatment instituted immediately that the non-effective rate would be held to a minimum and effective cures be attained. I made a request to General Martin for the services of a Genito-Urinary specialist and also for a section of the Army 2nd Medical Laboratory to assist in making diagnostic, bacteriological and serological examinations and to augment the personnel of the Corps Clearing Station operating the venereal hospital. Both of my requests were granted. The 2nd Medical Laboratory Unit arrived on 21 February in charge of Captain William W. Tribby, Medical Corps (Memphis, Tennessee). This unit consisting of Captain Tribby, Staff Sergeant Anthony Ashute, Sergeant William McHale and Private Highley brought the necessary diagnostic equipment and they were attached for duty with the 52nd Medical Battalion. Thus the Corps Venereal Hospital was established and excellent results were obtained.

Penicillin was a comparatively new drug in the Italian theatre of operations and it was in short supply. The small amount of this drug that was available was used exclusively in the treatment of surgical cases. However, whenever any shipment of this drug was received which had reached its expiration date this antibiotic was made available for the treatment of venereal diseases. None was wasted. In some resistant cases the course of treatment with this outdated penicillin had to be repeated, in a few cases the course of treatment was repeated several times; in all, excellent final results were achieved.

The Corps Venereal Hospital was in existence on the beachhead for three months. It opened at 1200 hours on 19 February and closed on 25 May. It had a capacity of 200 beds. Both British and American personnel were treated in this hospital. Only uncomplicated cases were treated in the Corps venereal hospital. Those who required more definitive treatment were transferred to one of the army hospitals. During its three months of activity the Corps venereal hospital admitted and treated approximately 3000 patients and all were returned to duty except 94 which had to be transferred to army hospitals. The number of transfers included 44 patients who were still undergoing treatment when the hospital was closed and their treatment was completed in an

army hospital. Upon closing of the hospital during the latter part of May, because the Corps Clearing Station was needed to support Corps troops in their offensive action, the responsibility for the treatment of venereal diseases again devolved upon the unit surgeons.

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On 21 February I had an opportunity to meet Lieutenant Colonel G. Jameson-Carr, Royal Army Medical Corps, Officer in Charge of the 3rd Biological Unit of the British War Office, London, England. Colonel Jameson-Carr was on the beachhead visiting British medical units and investigating the matter of the greater incidence of head wounds among British troops as compared to the number occurring among American forces. (This was really not a great mystery; the British troops still wore the flat steel helmet of World War I—that is, if they wore a helmet at all. Many of the British troops wore the berets.) I learned through Colonel Briggs that Colonel Jameson-Carr was a recognized expert on the subject of malaria and conferred with Colonel Jameson-Carr and discussed with him the potential danger of malaria on the beachhead. Colonel Jameson-Carr informed me

FIG. 19. Lt. Col. Dan McVicker, RAMC, CO 2 CCS; and Lt. Col. G. Jameson-Carr, RAMC, OIC 3rd Biological Unit, British War Office.

FIG. 20. "Anzio Smallpox." Shell holes filled with water.

that he was quite familiar with the endemic malarious areas and of the Pontine marshes of Italy having made an aerial survey and study of the Italian coastline for the British War Ministry a few years prior to the outbreak of the war. I enlisted the aid of this authority and requested that he provide me with a plan to combat malaria on the beachhead. Although it was still winter we had no intimation as to how long our stalemate at Anzio would last. I was well aware that with the coming of spring malaria would be another potent enemy with which we would have to contend.

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Colonel Jameson-Carr made several flights over the beachhead in an artillery observation plane. On one occasion his small craft was forced down by an enemy plane. On a large scale map of the beachhead Colonel Jameson-Carr outlined the areas he considered to be potential spots for mosquito breeding. The incessant rains showed up the natural terrain depressions and in addition the hundreds of thousands of shell holes, fox-holes and dugouts which were filled with water and which would provide ideal conditions for mosquito breeding.

General Martin, on one of his regular visits to the beachhead, was invited to attend a conference held on 23 February to discuss the malaria situation. This meeting was held in the Medical Section of the Corps head-

quarters. The problem affecting the health of the command was reviewed and some conclusions were reached as to how it was to be resolved. I requested General Martin to furnish VI Corps with a malariologist and the services of a malaria control and survey unit. The Fifth Army Surgeon agreed to send the requested personnel to the beachhead.

20

The major enemy offensive designed to drive VI Corps into the sea had been repulsed but the Germans had no intention of abandoning their ultimate objective of annihilating the Anzio beachhead. The prestige of the German Army was at stake and a victory was needed to bolster morale at home. The German high command never hesitated to sacrifice troops to achieve an important objective. Many German units had suffered such heavy losses in the assaults on 16 to 20 February that they had lost their offensive punch. The enemy had to pause and regroup.

In view of the German intention to continue the offensive, General Clark urged General Lucas to make every effort to strengthen the weakened beachhead defenses. Steps were taken to reduce the 45th Division front and to organize effective reserve positions. A readjustment of the boundaries between the 3rd and 45th Divisions strengthened the right shoulder of the salient and the responsibility for the left shoulder passed to the 1st British and 56th British divisions. The 1st British Division relieved the units of the 157th Infantry who had succeeded in beating off every enemy attempt to destroy its hold on the anchor positions of the left shoulder. The effect of the shift in boundaries reduced the front of the 45th Division by about one-half. The task of consolidating new positions and improving the old positions in the forward areas was complicated by almost continuous pressure from the enemy against the shoulders of the salient.

The 157th Infantry with the 2nd Battalion, 6th Armored Infantry (1st Armored Division) had held the left shoulder of the salient throughout the period of the big enemy offensive. For six days they had been under constant fire. On the night of 21/22 February the 1 British Division moved forward to relieve them. Not much remained of the units of the 157th Infantry as their losses were high. One hundred wounded were able to be evacuated on the night of 19/20 February from the 2nd Battalion, 157th Infantry following a successful attack by the 2nd Battalion, 6th Armored Infantry; supplies were also brought up. Company I, 157th Infantry had entered the battle with eight officers and 159 enlisted men. When the defensive battle was over only three officers and 68 men had survived, the rest had either been captured, blown to bits by artillery fire or had died fighting to prevent the enemy infantry from crawling through the barbed wire protecting the beachhead. These valiant troops had truly held their positions at all costs.

On 20 February the 2nd Battalion, 157th Infantry was virtually cut off. On the night of 21/22 February elements of the 56th British Divisions reached the beleaguered battalion but the enemy attacked all day on 22 February while the relief was being carried on and only 225 men escaped of which number ninety had to be hospitalized. In the week of constant fighting amid nerve shattering mortar and artillery fire some men

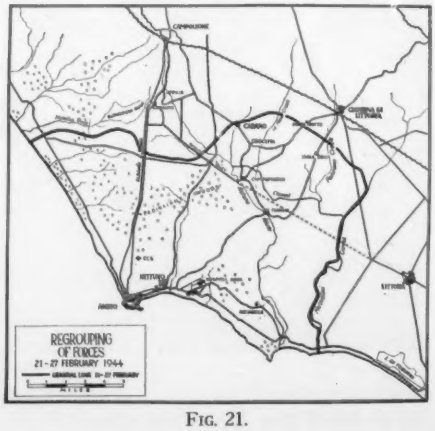

FIG. 21.

had lost their hearing while others were barely able to walk. The battalion surgeon, Captain Peter Graffignino, Medical Corps, and his medical aid men elected to remain behind to care for the wounded who were unable to get back. The following day an effort was made by Lieutenant Colonel Nesbitt L. Miller, Medical Corps (Oklahoma City, Oklahoma), Surgeon of the 45th Division, to effect the evacuation of these wounded. He sent Captain Hugo Fieldschmidt, a Dental Corps officer, and eight litter bearers forward to contact the aid station. The Germans permitted this rescue party to proceed through their lines—but they failed to return. A few nights later Captain Fieldschmidt was able to send a message to his wife during the nightly broadcast of "Axis Sally's" radio program. He said that he was in the hands of the Germans, that he was OK and that he had reached Rome ahead of schedule.

Holding the left shoulder of the salient was the most important and the most costly action in this bloody period of attrition. Whole platoons disappeared without leaving a trace in this area of deep ravines and rough terrain that characterized the Moletta river basin.

Enemy attacks in lesser strength continued against the right shoulder of the salient on 20 and 21 February. Late in the afternoon of 21 February enemy dive bombers and air burst anti-aircraft fire preceded the attack but the infantry action was on a minor scale. It appeared that the enemy was having trouble finding sufficient troops to throw into the battle.

While the attacks on the shoulders of the salient were in progress General Mackensen, Commander of the German Fourteenth Army, proceeded with the regrouping and reinforcement of his forces in preparation for a new major drive against the beachhead.

The initial objective of the impending German drive was shifted to the Cisterna front against the outer beachhead defense positions held by the 3rd Division and attached units holding the line between Carano and Isola Bella. On the afternoon of 28 February the enemy laid down a smoke screen on the front of the 3rd Division to conceal their last minute troop movements. After mid-night of 28/29 February enemy artillery shifted to the front of the 3rd Division from the British sector on the left of VI Corps. The attack on the 3rd Division was anticipated by VI Corps and the Corps artillery was shifted to thicken the divisional artillery fires.

21

Enemy pressure had relaxed against the western half of the beachhead front after 25 February and VI Corps was enabled to provide ample reserves to reinforce the 3rd Division. At the same time that the Allied Forces were being regrouped there came a change in the Corps command. General Truscott, who had come to the Corps as the Deputy Corps Commander on 17 February, replaced General Lucas as Commander of VI Corps on 23 February. General Clark held the opinion that General Lucas was ill, being exhausted both physically and mentally from the responsibilities of command during active combat.

General Truscott was already an experienced combat commander. He participated in the Dieppe raid in August 1942, and trained the U. S. Ranger Force in the United Kingdom. After the invasion of North Africa, General Truscott was given command of the 3rd Division which landed at Casablanca as part of the Western Task Force under General George A. Patton. The 3rd Division under General Truscott's command engaged with the enemy at Bizerte during the closing stages of the Tunisian campaign and played a dominant role in the invasion of Sicily and the defeat of the enemy in that island struggle. In Italy General Truscott brought the 3rd Division to the mainland shortly after the invasion at Salerno and after fighting through the mountains to the banks of the Rapido river he brought his division to the Anzio beachhead where he made a successful landing.

General Truscott brought with him his

Chief of Staff in the 3rd Division. Colonel Don Carleton, who became the VI Corps Chief of Staff, replacing General Keiser. On the afternoon of 23 February the new Corps Commander held a brief conference with the members of both the Corps General and Special Staffs. At this meeting General Truscott informed us in a few words that he intended to keep the VI Corps on the beachhead. The new Corps Commander was a blunt, positive individual but was a soldier's general. All of us had a great respect for him and his ability. We had confidence in our new leader and this confidence was reassuring after our experiences of the past ten days. General Lucas and General Keiser left the beachhead and returned to the United States.

22

Having received the approval of Corps Headquarters to organize a Corps Holding Hospital I proceeded with implementing my plan to retain as many effectives on the beachhead as was possible. It was apparent to me that since VI Corps was now on the defensive there was no immediate need of the 33rd Field Hospital to continue functioning in the mission which it had been assigned, that is, by having each one of its platoons with its attached surgical teams in direct support of a divisional clearing company for the purpose of treating non-transportable wounded. Both the 3rd and 45th Division Clearing stations were located within the confines of the hospital area and practically adjacent to the army evacuation hospitals. The 45th Division Clearing Station and the 120th Medical Battalion Headquarters having moved back from their untenable positions taken initially along the Nettuno-Cisterna Road. Their new position was northwest of the 33rd Field Hospital. Patients could be readily transported to the army medical installations directly from the clearing stations and the surgical teams attached to the Field Hospital would be made available to augment the professional staffs of the evacuation hospitals.

On 25 February I conducted a conference at Corps Headquarters which was attended by Colonel Drake of the 3rd Division, Colonel Miller of the 45th Division, Colonel Bennett and Captain Newman of the 33rd Field Hospital and Colonel Brewster. Lieutenant Colonel Austin W. Bennett, Medical Corps (Santa Barbara, California) had arrived two days before to assume command of the Field Hospital, a replacement for Colonel Hanser. At this meeting I outlined my plans for the operation of the Corps Holding Hospital. The plan met with enthusiastic approval by the division surgeons as they voiced the grave concern of their commanders over the steady drain on their combat strength caused by non-battle casualties. It was proposed that all convalescent minor surgical cases and all general uncomplicated medical cases be treated in the holding hospital with a general holding policy established at 14 days.

The 33rd Field Hospital was closed and moved to a new location within the hospital area. The site selected was adjacent (east) to the 52nd Medical Battalion and north (in rear) of the 93rd Evacuation Hospital. The equipment of all three platoons was pooled and excess items stored locally. A 400 bed hospital was erected under canvas. As soon as the hospital was opened convalescent surgical and medical patients were transferred from the army evacuation hospitals and slightly wounded and medical cases admitted directly from the divisional clearing stations. Upon recovery these patients were returned directly to their units.

The Corps Holding Hospital remained in operation until 22 May on which date the hospital was closed and its three platoons prepared to resume their normal function of support to the divisional clearing stations as VI Corps began its offensive action to break out of the beachhead.

With the establishment of both the Corps Venereal Hospital and the Corps Holding Hospital many thousands of patients were retained on the beachhead.

(To be continued)

EDITORIALS

For a Better Life

IN THE same mail recently we received literature from the Department of Defense on Armed Forces Day (the third Saturday of May) and from World Veterans Federation Fund which has its headquarters in New York City. The two pieces of literature seemed at first diametrically opposed in setting forth their programs.

The World Veterans Federation and Fund with a membership of more than 18 million veterans was founded in 1950 by Veterans from the United States and five other countries. It is channeling its energies into programs for peace and progress. "The World Veteran Federation repudiates the doctrine and practices of totalitarianism of all forms."

A common meeting place for all nations is the hospital. Here the same interests are involved. The high ideal of serving humanity and relieving human suffering knows neither race nor creed. With a full realization of this principle a 300-bed hospital and rehabilitation center has been established at Solo (Surakarta) in Central Java as a pilot project for the rest of Southeast Asia by the World Veterans Federation Fund. We hope that this will be one of the building blocks for peace in the world.

The other literature regarding Armed Forces Day (May 18) announced the display of armaments during the period of May 10-18. Naturally we wish this were not necessary. We would rather provide hospitals and food to the needy with some of this money. Some of the money could go for research toward making this a better world to live in generally. The need for research in medicine is always present.

Unfortunately selfish, greedy, power-seeking men in other nations have kept war fires burning and we Americans must spend billions of dollars to defend ourselves from nations that seek to dominate the world with their own kind of oppressive government. Whether we like it or not we must maintain our fighting arm of these United States. Peace we want so we must have *Power for Peace.*

Ten Years of Health Progress

IN APRIL, the World Health Organization celebrates its tenth anniversary of birth. This year's "World Health Day"—the seventh of this month—is therefore a sort of thanksgiving day for the great organization which may look back with pride upon the numerous beneficial achievements of its world-wide activities, not only in health and sanitation but also in many other fields of human culture. By the zeal of this first truly global international health agency, the extent of knowledge in health affairs has *spread from the few to the many,* which is perhaps the most praiseworthy accomplishment of the organization.

It is now a common belief that low health standards anywhere in the world are a common danger; that health is not merely a national affair but the concern of the whole world. Indeed, it may be said that, like Peace, the health of the world is also an indivisible and integral whole. The deterioration of the health conditions in any country will inevitably influence the welfare of the rest of human society.

Such a "holistic" point of view of global health has been steadily propagated by the World Health Organization whose membership then rapidly grew from the initial group of cooperative founders to an extent

where it now includes nearly a hundred different countries. Their cooperation and the coordinative efforts of WHO resulted in *rapid pooling of information and experience* in the field of health affairs. This made it easier to deal with pandemic diseases, with problems adversely affecting the mind of people, with tasks of improving the training of health personnel, and so on.

The organization has also opened ways for the pooling of material and manpower to the control of some common diseases and to the eradication of others. With the relentless fight—which only WHO could make possible—a permanent elimination of such infectious diseases as smallpox, yaws, urban yellow fever, and malaria appears now to be a reality of the near future.

Yet, during the past ten years of its life, in addition to recognizing its usefulness, the global health agency has also learned its own *limitations*. While the organization was successful in combating certain diseases, by the very fact of its victory, WHO has created more and more pressing newer problems. It became evident, for instance, that mass control of infectious diseases would not solve all health problems nor would it end disease itself. With the disappearance of the infections, other types of demographic and social problems emerged and/or gained new importance.

It is true now that fewer people are dying in early life and those who will reach the old-age group are many more now than in former decades. But, the longer years are also bringing bigger troubles since the wear and tear of the human body creates various hardships in the golden years which we have gained by the advancements of global hygiene and sanitation. As an example we are told that the number of Eskimos soon will exceed the number of seals! A very definite food and supply problem.

And what about our age of technical advances? In the place of the conquered bacteria, our technical progress has introduced numerous newer enemies and unprecedented types of stress. Verily we could call them modern "miasms" which, by almost a spontaneous generation, are reproducing themselves in the chaotic hotbed of our civilization. We are also creating numerous new chemical "miasms" by polluting our waters and rivers with industrial waste, by adding hundreds of flavoring and coloring substances to our clean foods and beverages, by spraying insecticides upon our fruits and vegetables, by filling the air of our cities with the exhaust products and gases of factories and motor cars, daily pouring such poisons at the rate of billions of pounds all over America. We are also creating new stresses by taking drugs first against headache, then against insomnia, then again for keeping ourselves alert and awake, or for soothing our nerves and calming ourselves because *Homo Civilisatus* does not seem to have the strength to bear his life's tensions otherwise. Statisticians say that in this country alone almost 14 million pounds of aspirin are produced (and consumed) yearly, or about 19 billion pieces of five-grain tablets. And how many more of the new kind of psychopharmaca?

All these new "miasms" and stresses, coming from the physical and social environment around the man of mid-twentieth century, provide new problems for all national and international health agencies. It is their new task, and of the World Health Organization, to safely guide the people through the complexities of the modern era so that Man may sometimes reach a blessed biological rather than a poor pathological end of his individual life, remaining in full possession of his physical stamina and mental abilities for at least five score years, the longer to serve his own tribe, and his own country, and the welfare of his own world.

Doctors in Gray*

WE HAVE spent some interesting hours in reading this story of the Confederate Medical Service. There have been many books published on the Civil War recently but not so many that

give the story of the medical service. Dr. Cunningham has covered not only the battle front but the rear areas to bring this story of the medical aspects of that war to us.

The North had its medical problems and we see in this book that the South had many similar ones. This is not surprising as medicine knows no boundaries. There were some economic problems that made the practice of medicine in the Confederate Army a little more difficult for the doctor.

In the Civil War, disease caused more disability than gun-fire. On the subject of diarrhea the author records, "The story is told of a haggard and unhappy Confederate soldier who, seeing a vigorous and healthy-looking Yankee cavalryman near the end of the war, exclaimed: 'Oh my, oh my! you look like you wuz sich a happy man! You got on sich a nice new-uniform, you got sich nice boots on, you ridin' sich a nice hoss, an' you look like yer bowels wuz so regular.'"

The problems of surgery were, of course, many. Remember the maggot therapy in vogue about 25 years ago? Well, we learn that "(Doctor) Joseph Jones noticed, however, that maggots destroyed the diseased tissue and left the wound in a healthy condition." Not so good probably was the "hermetic sealing of wounds." We now teach debridement and delayed suture for battle-wounds. The experience of the Confederate doctors with anesthetics is interesting.

Not all doctors were satisfied with the examination given them for commission. One who "flunked" had the "gripe" that ". . . You can get some easy position on the medical staff by a little reading up on manutia but you must read closely, for if they give you a close examination like they did me it will require close reading on manutia. . . . Peticolas (A. E. Peticolas, Professor of Anatomy, Medical College of Virginia) examined me on the anatomical structure of the eye, its various coats and the inflammation of thim with their diffarential diagnosis. Also the differant modes of treating their differant inflammations with the results of said inflammations . . . with the various distrabution of the nerves; . . . next came the artaries with their distrabutions. . . ." Why could not Johnny spell!

The doctors of the Confederate and Union Armies did a mighty fine job with what they had. We are proud of them.

* *Doctors in Gray.* The Confederate Medical Service. By H. H. Cunningham, Ph.D., Professor of history and dean of Elon College in North Carolina. Published by Louisiana State University Press, Baton Rouge. Price $6.00.

REUNION—79TH GENERAL U. S. ARMY HOSPITAL

(15th Anniversary of Overseas Embarkation)

Commissioned Officers' Mess, Brooklyn Navy Yard
Sunday, May 4, 1958

Reception: 3:00 P.M.

Dinner: 6:00 P.M.

Contact: Leonard I. Bluestone, D.D.S., Chairman, Reunion Dinner Committee, 98 Fort Greene Place, Brooklyn 17, New York.

Around the World

(Ser. II, No. 20)

By

CLAUDIUS F. MAYER, M.D.

TIBET has been going through a slow metamorphosis, chiefly under the influence of Communist China. The change concerns mostly the secular side of the country, including the elimination of serfdom, improvement in the cultivation of the soil, better transportation, *better facilities for education and for health. Tibetans* number about 4,500,000 persons the majority of whom live outside Tibet, in China proper, in Chinghai, Yunnan, and other neighboring districts. Tibet's own population is only about a million or a little more, including 50,000 nobles and merchants, 150,000 monks, 800,000 serfs (of this, 200,000 are pastoral nomad people). The inland Tibetan's life is, of course, greatly influenced by the *monastic system and the State Oracles.* Peiping's Central Committee must fight with a world of "spirits" that sends its messages through these oracles for the guidance of the Tibetan society. Nevertheless, in an evolutionary rather than revolutionary way, China has been already able to influence Tibetan life. Late travellers report of new roads on which the first motor cars were able to approach the top of the World. Air transportation also contributed to the conquest of Tibet. It is evident that *major changes will* also *come in the field of education, medicine and health.* But there is still a long way to go from the still medieval customs of Central Asia to the understanding of modern research and exploration.

Meanwhile, civilization and culture will have their martyrs, such as *Father Maurice Tornay,* Swiss Roman Catholic missionary, who was killed in south-eastern Tibet in 1949. He became a novice (1931), then a canon (1935) of the *Order of St. Bernard* in the hospice Grand St. Bernard in the Swiss Alps. With two of his confreres he departed in May 1936 for Tibet where, at the *Yunnan-Sikiang-Tibetan border* region, the French started a missionary work in the late 19th century. His order joined this effort in 1933. The headquarters of the St. Bernard group was at Wei-si, in the upper valley of the Mekong in north-western Yunnan. They were able to build schools, subsidiary hospices, etc., though civil disturbances started in those years. The brothers learned Tibetan and Chinese and accustomed themselves to the native ways of life. During the war years the Tibetans of this region were living in a quiet anarchy since Lhasa was too far, and the central Chinese government was also far away. But then, the communists advanced in 1949. Father Tornay established himself at Yerkalo (Yen-tsing) within Tibet proper, but soon he was expelled by the local Tibetan chief and lamas in 1946. Finally, he wanted to travel to Lhasa. He disguised himself and set out with a small caravan in July 1949 (the year of the communist advance) but he was discovered, forced back, ambushed and shot. Then, the last missionaries had to leave China.

At the time of the Chinese Communistic Revolution, a decree was issued (5 Dec., 1949) which designated the *Chinese Army to aid the economic reconstruction* of the different areas. This work had been completed in most areas, yet the aid of the Chinese Army has continued in the distant regions of the Chinese Republic. Such a region is *Sinkiang* (and Tibet). In 1950, almost 200,000 soldiers were stationed in Sinkiang, and more than 50% of the Army was engaged in productive work. Army farms have been established since 1950 on a cooperative basis. Of the income, 40% is divided among the soldiers working on the land, 20% accumulates, 20% is paid for expenses of the whole military district, and 20% is for taxes. The soldiers spend three

quarters of their time on farm work, and the rest on military training. The Army constructed large-scale irrigation works, and gradually turned over the reclaimed land to the local peasants, with the ultimate aim to increase the food supplies. Reclamation of virgin land is a newer movement, chiefly under Soviet influence. The Army has also developed new cotton fields, *constructed numerous industrial plants and buildings, for schools, medical posts,* etc. Other activities of the Chinese Army for Sinkiang's economic development include livestock breeding, afforestation, road-building, rubber plantations, and training of skilled workers (of soldiers for skilled labor). The Army is thus strengthening the unity of the Chinese people, and helps to create an economic organism.

At the end of September 1955, this part of China became the *Sinkiang-Uygur Autonomous Region.* It has about 4,000,000 inhabitants who represent about 13 different peoples. On the northwest, the region borders the Soviet Union for about 800 miles. A railroad is built from Lanchow to Urumchi, capital of Sinkiang, and to Alma-Ata in the Soviet Union. This part of China has been considered the most backward and the most neglected, previous to 1950. Now, the material and cultural welfare of the population is promoted in the usual communistic fashion.

During the Third *Japanese Himalayan Expedition* in 1956, which was to Mt. Manaslu in Nepal, medical members of the expedition (Tokunaga) had an opportunity to study the *health and diseases of Central Nepal.* This region can be roughly divided into a northern, a middle and a southern region. The northern region lies at altitudes over 10,000 ft., on the north side of the Himalayas, and its inhabitants are Tibetans who are living under severe climatic conditions. The southern region used to be a source of various tropical diseases, but the expedition has not observed such epidemics, except malaria which was rampant among the expedition's porters. In the north, skin diseases were common, also eye troubles, neuralgia, asthma, and rheumatism. Goiter was prevalent in certain valleys (in Setipas and Kundi). The articular disease was usually rheumatoid arthritis. Blindness was chiefly the result of trachomatous pannus, or of sympathetic ophthalmia. Venereal diseases (syphilis and gonorrhea) are quite common; these people are very bashful in talking of sexual matters. Many cases of pulmonary tuberculosis were also seen. Scrofuloderma had also a high incidence. Modern *medical facilities* are rare. The towns of Katmandu and Pokhara have such accommodations. Katmandu has three modern hospitals and a sanatorium. The main source of medical service for the Nepalese is through a form of social security, though this service still does not reach the rural areas. In the north, usually a lama does the doctor's work, and he treats with herbs, moxibustion, and minor surgery.

The recent union of Iraq and Jordan will bring the greater benefit to the poorer Jordan. This mid-eastern country is in need of much improvement. A few years ago (in 1955) the International Bank for Reconstruction and Development, at the request of Jordan, organized a mission for a general review of that country, with a view to *raise the standard of living of the Jordanians.* A report of that mission was recently published, and, among other matters, it also includes chapters on the *health and medical affairs of Jordan.* This Hashimite Kingdom, which became independent in 1946 only, is a predominantly agricultural country; its resources are limited, while its population is growing at a high rate. As a whole it is very dry, and its greater part is sandy desert where every drop of water must be carefully husbanded. The country has no coal, no oil, no metallic ores. In 1947, its population was 375,000, but in 1948 alone an additional 350,000 came as refugees from Israel. This sudden influx resulted in unemployment, lowering of wages, overloading of the housing and *public service facilities* so that they became *inadequate at many points* (water

supplies, sewage, streets, etc.) The natural increase of the population is 3% a year. Though there has been a certain rapid expansion of economic activity in Jordan in the last few years, it was unable to cure all the ailments of the population in this Arab country.

Rehabilitation of the country will require, even after the recent union, a lot of expenditure in the coming ten years. It is calculated that *for health alone 640,000 Jordan dinars* (1 Jd. dinar equals one English pound) are needed until 1964-65 while proper housing would require one million JD. It may not be necessary perhaps to build more hospitals, but the existent ones should be adequately staffed and properly operated. The psychiatric facilities should be enlarged, and a few additional beds are required for tuberculosis cases. *Dentists do not like Jordan;* hence, the government should encourage their settlement by providing clinical facilities at central points. The total aspect of the public health program is going to be changed gradually toward the preventive role of medicine, with the aid of international and foreign agencies such as WHO, UNRWA, etc.

On 1 Jan., 1955, the *hospital facilities of Jordan* included 43 public and private establishments, with 2,545 beds (1 bed for 600 persons), 79 dispensaries, 62 medical officers in the government, and 143 private doctors (also 43 UNRWA doctors). The dreaded infections such as smallpox, plague, yellow-fever, cholera, exanthematic typhus, are absent from the country. The use of larvicides radically changed the malarial situation in the Yarmuk-Jordan Valley. Thus, the remaining troubles will mostly come from *trachoma and the dysentery* types. Tuberculosis is also diminishing, and open cases are quickly isolated. A number of health and welfare agencies have contributed to the improvement of maternal and infant health, too. Perhaps a similar improvement will come in the field of eye infections when the special *Ophthalmic Hospital* will be established by the Order of St. John of Jerusalem in that ancient city. As everywhere else in the Orient, *environmental sanitation* also has an almost endless field for future expansion in the Kingdom of Jordan. But before such an expansion could bring even a slight improvement in the living conditions, the water supplies must be augmented, and the *menace of existing sewage disposal* must be removed. (Amman, the capital city, has no public sewerage system.)

In Africa, the British put several thousand persons in camps and prisons who participated in, or were in sympathy with the *Mau-Mau movement in Kenya.* Early last year there were 52 camps, and prisons, and 18 rehabilitation villages where the number of detained persons amounted to 35,000. These detention camps were visited by a committee of the International Red Cross. The housing conditions and sanitation were found excellent in the camps. The detained persons were free to work as they liked, and they were paid for it. One of the interesting features of the camps was a new *type of hut made of aluminum* which was well insulated against both heat and cold, could be easily erected, and was simple to maintain in the tropical climate.

The Kenya Branch of the British Medical Association reports that *medical practitioners* have been *entering Kenya in such numbers* that it is impossible to find employment for them. The situation is bad both for general practitioners and for specialists. In this country the day of the "squatter" has passed now, unless he has much money so that he can establish himself and wait.

One of the favorite pastimes of bacteriologists seems to be the *discovery of newer and newer Salmonella types* in diarrheal stools, and the determination of the antigenic formula of the newly found bugs by serology. Counting the specific names at one time, several years ago, I remember that there were well over several hundreds. Now, a recently received report from the *South African Institute for Medical Research* adds several new species to the *Salmonella* genus

such as *S. alexander, S. boksburg, S. rand.* They all were isolated from Africans suffering from gastroenteritis. Their identifying biochemical formulas look mysterious and awe-inspiring, like equations in mathematical logics; for instance, for the bacteriologist, the new *S. alexander* is: "40:gs(t) z_8Z_9:enz$_{16}$"—which is undoubtedly a very polite name for the lowly diarrhea bacillus.

The *wealth-producer of the Pacific Islands* is the *coconut palm.* There is not a small particle of it, or of its fruit, leaves, roots, trunk, etc., which would not be useful either as food or as medicine or for wearing apparel, or as a part of houses, tools, vehicles, etc. The coconut also contains a delicious juice (called milk, water or wine) long before it is ripe. The juice is clear, of delicate acidity yet sweet, and no one can imagine how excellent its taste is unless he himself cuts the coconut from the tree. But the coconut is also used for the production of another type of beverage: the *coconut-brandy.* In some places, as in the *Marquesas Islands,* its manufacture is illicit. But the white man's law does not keep the native chiefs from making their "namu enata," the consumption of which makes them excited: they lose all vestiges of civilization, and are driven to murder and to various orgies (for such effects, the juice must be left stale and fermented). By the way, this custom had been imported to the Marquesas from the mainland of Asia, together with Rum and Opium, the other two great killers of the natives.

Recent studies in various countries show that our *statistics on cardiovascular diseases* and our assumptions on the extensive role of heart disease as a cause of death are most likely wrong. Vital statistics are based upon doctor's death certificates. The doctor must write something on the certificate as the cause of death. What is more natural than to write "heart disease" upon the certificate in case of failing bloodpressure, especially when there has not been any facility for searching after further causes of the shock Again, if such a patient is elderly, the death certificate will probably read "arteriosclerotic heart disease," etc. etc. The truth is that this diagnosis is often made, not for positive reasons, but because the doctor is unable to give another cause. As to *the "normal" values of* systolic and diastolic *blood pressure* and the effect of weight upon them, an extensive *survey in Bergen,* Norway showed that both mean pressures increase with the age in fairly regular manner, but it would be hard to say where the normal pressure ends and where the pathologic begins. It should be a consolation for all fat persons that over-weight had but a very small influence upon blood pressure of the Norwegian.

The *existence of the so-called Golgi bodies,* or internal reticular apparatus within the protoplasm of all animal cells, is now again categorically denied. Since 1931, when some (Schlottke) dared to call it an artifact, the Golgi apparatus had had a very rough time. Now, a number of morphologists and histochemists unanimously recommend that the term *should be completely discarded* from the cytological (etc. etc.) nomenclature. People should indeed concentrate upon more objective study of the cytoplasmic inclusions themselves.

In France, a decree of 1947 prescribed that a *"health and social register" must be maintained for prostitution.* In July 1957, there were 16,469 individuals inscribed on the social register. All of them are obliged to undergo periodic (frequent) examinations. Such periodic checks during 1956 detected 16,469 (!) cases of gonorrhea, and 1,452 case of primary and/or secondary syphilis. The number of consultations in the antivenereal dispensaries was 372,582 in 1956. Women who want to abandon the sale of their flesh are taken off the register. Since the creation of this roll, only 2,236 women had relinquished habitual prostitution.

Venus vulgivaga is again rampant on the city streets of the communist countries. In *Budapest, the girls stroll at night* at the same familiar places as known 15 years ago. A recent article of a communist illustrated

magazine reported an interview with the Budapest police who keep the merchants of Venus under surveillance. According to police estimate, there are now about 10,000 prostitutes in Budapest, though promiscuity on a commercial basis is considered a *criminal offense behind the iron curtain.* Yet, there are many factors, not necessarily social or economical, which drive a young woman to such shameful life. Many of them are orphans, or lonely, or with the experience of a broken marriage. Since there are now no schools for juvenile delinquents in the communist countries, there is no further facility to instruct them in some useful trade or occupation. Since the brothels are now closed in all communist countries, police officers suggested that some kind of licensing should be reintroduced so that a *better fight* could be made *against veneral disease.*

Stray dogs caused too much trouble on the island of *Raratonga* (Cook Islands). Hence, the Island Council issued an ordinance requiring that all female pups are to be destroyed forthwith, and all female dogs must be exterminated within a year. Thereafter, the male dogs will be *permitted to live out a bachelor's existence.* It is also hoped that in such an existence there will be probably no more night fighting, with the little incentive for such quarrels permanently removed. . . . *Multa paucis!*

ASSOCIATION MEMBERS TO GIVE LECTURES

At the Industrial Health Conference to be held at Atlantic City, N.J., April 19-25, two members of our Association will give lectures. The C. O. Sappington Memorial Lecture will be presented by Dr. C. W. Schilling, Deputy Director, Division of Biology and Medicine, Atomic Energy Commission. His subject will be "Everybody's Business—The Problem of Fall Out and Radiation."

The Donald E. Cummings Memorial Lecture will be given by Major General James P. Cooney, Deputy Surgeon General of the Army. His subject will be "Interpersonal Relations."

SUSTAINING MEMBERS

It is a privilege to list the firms who have joined The Association of Military Surgeons as Sustaining Members. We gratefully acknowledge their support.

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The Sir Henry Wellcome Medal and Prize

COMPETITION FOR 1958

THE competition is open to all medical department officers, former such officers, of the Army, Navy, Air Force, Public Health Service, Veterans Administration, The National Guard and the Reserves of the United States, commissioned officers of foreign military services, and all members of the Association, except that no person shall be eligible for a second award of this medal and prize and no paper previously published will be accepted.

The award for 1958, a medal, a scroll, and a cash prize of $500, will be given for the paper selected by a committee composed of the Association's vice-presidents which reports on the most useful original investigation in the field of military medicine. The widest latitude is given this competition, so that it may be open to all components of the membership of the Association. Appropriate subjects may be found in the theory and practice of medicine, dentistry, veterinary medicine, nursing and sanitation. The material presented may be the result of laboratory work or of field experience. Certain weight will be given to the amount and quality of the original work involved, but relative value to military medicine as a whole will be the determining factor.

Each competitor must furnish six copies of his paper which must not be signed with the true name of the author, but are to be identified by a *nom de plume* or distinctive device. These must be forwarded to the Secretary of the Association of Military Surgeons of the United States, Suite 718, 1726 Eye St. N.W., Washington 6. D.C., so as to arrive at a date not later than 1 July 1958, and must be accompanied by a sealed envelope marked on the outside with the fictitious name or device assumed by the writer and enclosing his true name, title and address. The length of the essays is fixed between a maximum of 10,000 words and a minimum of 3000 words. After the winning paper has been selected the envelope accompanying the winning essay or report will be opened by the Secretary of the Association and the name of the successful contestant announced by him. The winning essay or report becomes the property of the Association, and will be published in MILITARY MEDICINE. Should the Board of Award see fit to designate any paper for "first honorable mention" the Executive Council may award the writer life membership in The Association of Military Surgeons, and his essay will then also become the property of the Association.

ASSOCIATION NOTES

Timely items of general interest are accepted for these columns. Deadline is 3rd of month preceding month of issue.

Department of Defense

Ass't Secretary (Health & Medical)—HON. FRANK B. BERRY, M.D.

Deputy Ass't Sec'y—HON. EDW. H. CUSHING, M.D.

CELLULAR PATHOLOGY CENTENNIAL

The Centennial of the publication of Rudolph Virchow's "Cellular Pathology" will be celebrated throughout the year 1958 by the Armed Forces Institute of Pathology located at the Walter Reed Army Medical Center, Washington, D.C.

Captain William M. Silliphant, MC, U. S. Navy, The Director of the Institute has stated that there will be lectures from time to time at the Institute, announcements of which will be made.

Rudolf Virchow, a German pathologist (1821-1902), gave his series of lectures on "Cellular Pathology" during several months of 1858. These lectures were given in Berlin and were the first to proclaim a unified concept of cells as self-reproducing biological entities.

Army

Surgeon General—MAJ. GEN. SILAS B. HAYS

Deputy Surg. Gen.—MAJ. GEN. JAMES P. COONEY

IRWIN ARMY HOSPITAL

Recently the Surgeon General of the Army, Major General Silas B. Hayes, attended the dedication ceremonies of the new Army hospital at Fort Riley, Kansas.

This hospital was named in memory of Brigadier General J. D. Irwin, Medical Corps, U. S. Army, who died December 15, 1917 at the age of 87.

General Irwin was a native of Ireland and came to the United States in 1856. He was commissioned in the Army Medical Corps as an assistant surgeon. In February 1861 he won fame as the "fighting doctor" when he assumed command of two infantry detachments under attack by Chiricahua Apache Indians near Apache Pass, Arizona. He was awarded the Congressional Medal of Honor for his display of bravery and service.

General Irwin organized the first tent field hospital and used it on the battle field of Shiloh, Tennessee on April 6, 1862. A tablet has been erected at the site. He was captured by opposing forces in August 30, 1862 but was soon released.

At the first meeting of the Association of Military Surgeons, held in Chicago on September 18, 1891 (then) Colonel Irwin, Surgeon, U. S. Army, Medical Director Department of the Missouri, gave a talk on the duties of medical officers.

He retired in the rank of colonel on June 28, 1894 but in view of his great service to the Army he was promoted ten years later to brigadier general.

The present Commanding officer of Irwin Army Hospital is Colonel Milford T. Kubin, Medical Corps. This is his second tour of duty at Fort Riley.

DEVELOPING SCIENTISTS

We have heard much recently about the study of mathematics and science in our schools. In areas where there are installa-

tions, such a laboratories, it might be well to further encourage these young people in their interests by having an "openhouse" for only them sometime during the year.

At the Walter Reed Army Medical Center the 1958 Westinghouse Science Talent Search winners were treated to a visit through the Institute of Research and the Armed Forces Institute of Pathology where they could witness some of the current projects.

Escorting the young men and women through their tour was Major Edward L. Buescher, a staff member who was himself a Science Talent Search competitor in 1942, the year the Westinghouse program was initiated.

MEDICAL EQUIPMENT STERLIZATION

In a recent lecture at Seton Hall College of Medicine and Dentistry a new method of sterilizing medical equipment by gas was explained by C. R. Phillips, Ph.D., Chief, Physical Defense Division, U. S. Army Chemical Corps, Fort Detrick, Maryland.

Gaseous sterilization, a new technique, is useful in sterilizing sensitive medical equipment which cannot withstand dry heat, steam, or liquid chemicals. The principal gas used is ethylene oxide, which formerly was considered too inflammable. However, by mixing ethylene oxide with less combustible gases a mixture has been developed which is deadly to bacteria and overcomes some of the fire hazard. Beta-propiolactone, a new gas, has been used for disinfecting entire buildings.

The series of lectures is given under the auspices of the Becton, Dickinson Company.

MEDICAL SERVICE CORPS

The Medical Service Corps needs approximately 200 officers annually including 100 Regular Army in order to fulfill its personnel requirements.

Specialists such as clinical psychologists, clinical laboratory officers, and sanitary engineers, are especially needed.

Those desiring further information should contact the Office of the Surgeon General of the Army, Washington 25, D.C.

APPOINTMENTS IN REGULAR ARMY

The Department of the Army has just approved a new program permitting appointment in the Regular Army of qualified former RA and Reserve Component officers direct from civil life. They will be offered Regular Army commissions in the basic branches and the Women's Army Corps.

Applications may be made by personal letter direct to The Adjutant General, Department of the Army, Washington 25, D.C., except Army NGUS officers must apply through their State Adjutant General.

The program is outlined in DA Circular 601-12.

CREDIT POINTS FOR NURSES

Reserve Army Nurse Corps officers, not on active duty, who attend three specified sessions of the 1958 convention of the American Nurses Association in Atlantic City, New Jersey, June 9-13, may earn retirement point credits.

Official orders will not be needed by reservists to attend the convention.

NURSE CORPS BREAKFAST

The traditional Army Nurse Corps breakfast held during the American Nurses Association convention for officers and their friends will take place from 7-9 A.M. in the Claridge Hotel, Atlantic City on June 10. The breakfast will feature a panel discussion: "Improving Nursing Practice in the Army."

Tickets may be purchased at the convention although many officers have made reservations with Lt. Col. Mildred I. Clark, ANC, Personnel Division, Office of The Surgeon General, Washington 25, D.C.

TRIPLER'S MANUAL

"Recruiting and Inspection of Recruits" by Charles S. Tripler, Brevet Brigadier General of the Army Medical Corps, was published in 1858. This manual was pub-

lished under the authority of the Department of War as a guide to the examination of recruits.

General Tripler probably felt that his manual was not being followed very closely for a few years later when he was Medical Director of the Army of the Potomac he complained: "It seemed as if the army called out to defend the life of the nation had been made use of as a grand eleemosynary institution for the reception of the aged and infirm, the blind, the lame, and the deaf, where they might be housed, fed, paid, clothed, and pensioned, and their township relieved of the burden of their support."

UNIFORMS

The Army again cautions that some of its personnel may be spending money for unauthorized uniforms.

According to the Quartermaster General's Office, the various semi and dress uniforms for both men and women that have been purchased since September 16, 1957, from sources outside the QM clothing sales stores must bear a warranty approved by the U. S. Army Uniform Quality Control Office. These include the Army Green, Blue, White, and Tropical Worsted uniforms plus all others listed in AR 700-8400-3.

Uniforms that bear the following type of label are NOT AUTHORIZED for wear as part of the prescribed uniform:

"WE GUARANTEE this garment at date of sale to conform to Army Regulations and to be equal to or better than required by specifications issued by the Quartermaster Corps, U. S. Army, including adherance to standards of color and color fastness 100% virgin wool worsted, Registration Number ——."

The prescribed label MUST INCORPORATE the following:

"This garment is warranted to meet or exceed the standards of specification(s) No. —— and was produced under Certificate No. —— from basic material warranted by the manufacturer to be produced in accordance with sample on the current certificate."

10TH INFANTRY DIVISION

The 10th Infantry Division will be redesignated the 2d Infantry Division on its return from Germany this spring. The 10th Division designation will be retired.

The 2nd Division is being retained on the active roles because of its historic background. Widely known by its "Indian Head" shoulder patch, the division has engaged in 21 campaigns that include World War I, WW II, and the Korean Conflict.

Navy

Surgeon General—REAR ADM. BARTHOLOMEW W. HOGAN

Deputy Surgeon General—REAR ADM. BRUCE E. BRADLEY

DIRECTOR, NURSING DIVISION

Official U. S. Navy Photo

CAPT. RUTH A. HOUGHTON, NC, USN

Effective May 1 the Director, Nursing Division, Bureau of Medicine and Surgery, will be Captain Ruth A. Houghton, NC, U. S. Navy. She is presently Chief, Nursing

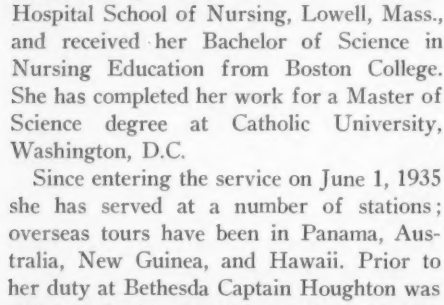
Service, U. S. Naval Hospital, National Naval Medical Center, Bethesda, Md.

Captain Houghton will replace Captain W. Leona Jackson who will complete a four-year term as Director, Nursing Division, on April 30.

Captain Houghton is a native of Andover, Mass. She graduated from the St. John's Hospital School of Nursing, Lowell, Mass., and received her Bachelor of Science in Nursing Education from Boston College. She has completed her work for a Master of Science degree at Catholic University, Washington, D.C.

Since entering the service on June 1, 1935 she has served at a number of stations; overseas tours have been in Panama, Australia, New Guinea, and Hawaii. Prior to her duty at Bethesda Captain Houghton was Chief of the Nursing Service, Naval Hospital, San Diego, Calif.

RADIOISOTOPE TECHNIQUE TRAINING



Official U. S. Navy Photo

(L to R) Lt. S. C. McGinniss, NC, USNR; Capt. E. R. King, MC, USN, Director of the School of Nuclear Medicine; Capt. E. R. King, NC, USN; Cdr. Mary Grimes, NC, USN.

The first three Navy Nurses assigned to a formal course in Radioisotope Techniques are shown above examining the results of a test on the beta spectrometer. The course is given at the U. S. Naval Medical School, National Naval Medical Center, Bethesda, Md.

SEMINAR

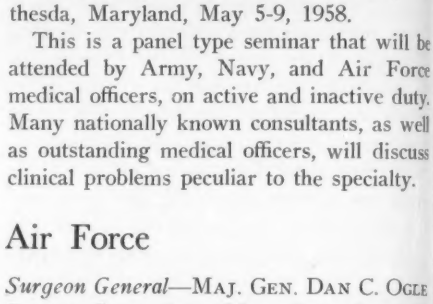
The Fifth Annual Armed Forces Obstetrics and Gynecology Seminar will be held at the National Naval Medical Center, Bethesda, Maryland, May 5-9, 1958.

This is a panel type seminar that will be attended by Army, Navy, and Air Force medical officers, on active and inactive duty. Many nationally known consultants, as well as outstanding medical officers, will discuss clinical problems peculiar to the specialty.

Air Force

Surgeon General—Maj. Gen. Dan C. Ogle
Deputy Surg. Gen.—Maj. Gen. Olin F. McIlnay

LEGION OF MERIT



Official U. S. Air Force Photo

Maj. Gen. Dan C. Ogle; Maj. Gen. Marvin E. Kennebeck

On his retirement from military service on January 31, Major General Marvin E. Kennebeck, Assistant for Dental Services, Office of the Surgeon General, U. S. Air Force, was awarded the Legion of Merit. Presentation was made by the Surgeon General, Major General Dan C. Ogle.

General Kennebeck was appointed Assistant for Dental Services in June 1952 where he pioneered in the fluoridation of water supplies at Air Force bases; the initiation of the Air Force Preventive Dentistry Program

which has contributed immeasureably to the high health standards of the Air Force; the introduction of the Panoramic Dental X-ray machine and the use of chrome cobalt alloy to replace gold in dental work. In addition, during General Kennebeck's assignment dental officer and postgraduate training was expanded by over one hundred percent which afforded the highest type of professional training to Air Force dental officers.

TO MAJOR GENERAL

General Wilford F. Hall has been promoted to the temporary rank of major general. He is the surgeon of the Air Matériel Command with headquarters at Wright-Patterson Air Force Base, Ohio.

SPACE AGE

We have moved along from the hot air balloon to the airplane and now to the rocket that brings us to the Space Age.

We hear now of the volunteers that have stepped forward to be first on the trip to the moon. To test the human reaction to such a trip a 23-year-old airman, Donald Farrell, recently submitted to a test at the School of Aviation Medicine, Randolph Air Force Base, Texas.

Of course, this test was made on the ground and in a steel shell, simulating conditions which are believed to be those that would exist in a vehicle that might make the trip to the moon.

The Space Cabin in which Farrell spent a week maintained an air pressure of one half an atmosphere, equal to the air pressure at 18,000 feet. Men can exist at this pressure, certainly after some acclimatization, as is known from the life of the Indians in the Andes Mountains.

There are, of course, other problems such as waste disposal, continuing supplies of oxygen, temperature regulation, food, cosmic ray protection, and monotony and uncertainty. Many problems must be solved in the engineering and biological field before man visits the Moon. But great strides are being made.

We now know that Farrell remained in his cramped quarters for the full week which was the pre-determined length of the experiment. On a signal he could have been released at any time. There were no ill effects as determined by the doctors. The only thing Farrell said he noticed was that he could not whistle!

AVIATION PHYSIOLOGY COURSE

Dr. Domenic Vavala, an officer at Lackland Air Force Base, Texas, is instructor of a course on aviation physiology at the Incarnate Word College, San Antonio, Texas.

This course has for its content: hypoxia; altitude dysberism; acceleration and "G" forces rapid decompression; hypoglycemia; principles and problems of vision; physiologic problems of high altitude flight; physiologic problems of space flight and space travel; physics of atmosphere.

Public Health Service

Surgeon General—LEROY E. BURNEY, M.D.
Deputy Surg. Gen.—JOHN D. PORTERFIELD, M.D.

POLIO

For some time now the Public Health Service has been stressing the importance of vaccination against poliomyelitis. A special effort is being directed against the group of children under 5 years of age since this is the age group with the highest attack rate for paralytic polio.

The highest attack rate—5.7 per 100,000—was among 1-year-old children. The next highest rate—5.5—was among 2-year-olds. For all children through the age of four the rate averaged 4.4, compared with 1.4 for the 5 through 19 age group and 0.8 for those through 39.

The time to vaccinate is now before the polio season starts. Two injections for those who have not received any vaccine and a third for those who have received the vaccine is in order. The third dose should be

given seven months to one year after the second injection. VACCINATE NOW.

NATIONAL LIBRARY OF MEDICINE

Maj. General I. S. Ravdin, USAR, Retired, John Rhea Barton Professor of Surgery at the University of Pennsylvania, has been elected Chairman by the Board of Regents of the National Library of Medicine. His term of office began February 22 when he succeeded Dr. Worth B. Daniels, Clinical Professor of Medicine at Georgetown University.

COMMITTEE ON RADIATION

A National Advisory Committee on Radiation has been established to advise the Surgeon General of the Public Health Service on the further development of programs dealing with public health aspects of radiation.

Dr. Burney said that "the development of adequate safeguards against the hazards of radiation must be regarded as an increasingly important public health responsibility."

Dr. Russell H. Morgan, Professor of Radiology, Johns Hopkins University Medical School, and Radiologist in Chief of Johns Hopkins Hospital will be the chairman of the new committee.

TRAINING IN EPIDEMIOLOGY

A course in Applied Epidemiology will be offered at the Communicable Disease Center, Public Health Service, Atlanta, Ga., May 5-9, as a part of the continuing program of the Center's Training Branch. The course is designed primarily for physicians who serve as investigators of disease outbreaks or have administrative responsibility for such investigations.

Further information and application forms may be obtained from: Chief, Communicable Disease Center, USPHS, 50 Seventh St., N.E., Atlanta 23, Ga. Attention: Chief, Training Branch.

Veterans Administration

Chief Medical Director—WILLIAM S. MIDDLETON, M.D.

Deputy Chief Med. Dir.—R. A. WOLFORD, M.D.

ASSIGNMENTS

Ruben Cohen, manager of the VA center at Kecoughtan, Va., has been transferred to Sunmount, N.Y., where he will be manager of the VA hospital.

James F. Haile has been transferred from Minot, N.D., to the Veterans Administration Center at Kecoughtan, Va., where he will be manager. During World War II he was on active duty as an Air Force officer.

Dr. Frank C. Larson who has been serving as assistant chief of medicine and tuberculosis service at the Madison (Wis.) VA hospital, and has been associate professor of medicine at the University of Wisconsin Medical School, has accepted a dual appointment as Director of the Clinical Laboratories of University Hospitals and Director of the Clinical Pathology program for the Medical School, effective July 1.

Dr. George M. Leiby has been transferred from Chicago to Columbus, Ohio, as area director of professional services.

Dan J. Macer, manager of the VA hospital at Sunmount, N.Y. will replace Dr. Leiby as manager of the Chicago hospital.

Elvan P. Whitaker, who has been assistant manager of the VA hospital at Denver, Colo., has been appointed manager of the Minot, N.D., hospital. During World War II he served as a Naval aviator.

CLINICAL INVESTIGATORS

The primary responsibility of a clinical investigator in the Veterans Administration is that of medical research on problems of particular importance to veteran patients, but he also spends part of his time in the patient care program at the hospital to which he is assigned. Thus he is not only a laboratory worker but also a clinician.

Four new physicians have been appointed which will bring the number to 31 by July 1, 1958. Appointments made in January were: Doctors Robert P. Arthur, Philadelphia; Robert P. Cameron, New Orleans; Sey-

mour Dayton, Los Angeles; and Alfred Doscherholmen, Minneapolis.

Those selected for appointment on July 1 are: Doctors James S. Arnold who will go to Salt Lake City, Utah; Lawrence M. Heideman, who will remain in Seattle; Lindy F. Kumagai, who will go to Salt Lake City; and James O. Wynn, Jr., who will go to Durham, N.C.

NEW DRUG FOR TUBERCULOSIS

Thiocarbanidin, a new synthetic drug, will be tested against tuberculosis by the Veteran's Administration.

This drug was reported by guest speakers at the Veterans Administration annual meeting on tuberculosis recently. Indications are that the drug has no ill effects and may be helpful. It is believed that the drug may be an acceptible substitute for PAS which has the undesirable effect of causing nausea and vomiting in some patients.

National Guard

APPOINTED DIRECTOR

Lt. Colonel Carl J. Schopfer, MC, New Jersey National Guard, has been appointed Director of the Occupational Health Institute, Bloomfield, New Jersey.

Colonel Schopfer is Coroner of Essex County. He has been active in medico-military affairs, having served as Surgeon of the Reserve Officers Association, Department of New Jersey. He is presently assigned as Surgeon of the 114th Surgical Hospital (Mobile Army), New Jersey National Guard.

Miscellaneous

INCOME TAX RELIEF

Physically disabled retired military persons may be entitled to tax relief on that portion of their retired pay which was considered taxable.

Internal Revenue Service Ruling 58-43, given February 14, 1958, rules that members of the Armed Forces retired for physical disability may take advantage of the $100 per week "sick pay" from 1954, until they have become of "retirement age."

"Retirement Age" is stated as the date of 40 years of service or age 62 (for Navy) in the case of officers and warrant officers; or date of 30 years of service, regardless of age, in case of enlisted persons.

Army and Air Force have set different times. Those who consider themselves eligible should contact their District Internal Revenue Service Office citing the above ruling.

DEAN PITT MEDICAL SCHOOL

Dr. Francis S. Cheever has been named as dean of the School of Medicine, University of Pittsburgh to succeed Dr. William S. McEllroy who has retired.

Dr. Cheever is a graduate of Harvard Medical School. He has been associated with the University of Pittsburgh Graduate School of Medicine since 1950. During World War II he served with the Medical Corps of the U. S. Navy.

NEW DEAN FOR PITT GRADUATE SCHOOL OF PUBLIC HEALTH

Dr. James A. Crabtree has been appointed as the new dean of the Graduate School of Public Health, University of Pittsburgh School of Medicine. He succeeds Dr. Thomas Parran who went to Pitt in 1948 to organize the Graduate School of Public Health and now becomes director of the Avalon Foundation in New York.

Dr. Crabtree came to the University in 1949 from the United States Public Health Service, and has been head of the department of public health practice in the Graduate School of Public Health.

Dr. Crabtree received the bachelor of science and doctor of medicine degrees from the University of Tennessee. In 1932 he received the degree of Doctor of Public Health from the Johns Hopkins University.

He is a member of the AAAS, the Washington (D.C.) Academy of Medicine, Ameri-

can Society of Tropical Medicine, American Public Health Association, American Medical Association, Association of American Military Surgeons, is a member of the board of trustees of the American Hospital Association, and Pennsylvania Public Health Association.

INTERNATIONAL TRAINEES GET INCREASED STIPENDS

Increased stipends for its international trainees within the department of physical medicine and rehabilitation of New York University College of Medicine have been announced by Dr. Donal Sheehan, dean, and Dr. Howard A. Rusk, professor and chairman of the department. This increase is effective July 1 and will cover all current and future international trainees.

There are now 55 international trainees (47 physicians and 8 non-physicians) from 27 nations participating in advanced and basic training in the medical speciality of physical medicine and rehabilitation, physical therapy, occupational therapy, social work and prosthetics in the affiliated teaching institutions of the department.

Under the new stipends, international trainees will be paid an additional minimum maintenance of $125 per month. Trainees not receiving maintenance will receive $250. All trainees with dependents will get an additional $300 per year for each dependent accompanying the trainee to the United States.

SYMPOSIUM

The Eighth Annual Research Equipment Exhibit and Instrumentation Symposium will be held May 12-14 at the National Institutes of Health, Bethesda, Md.

MEETING

The American Goiter Association will hold its 1958 meeting in the St. Francis Hotel, San Francisco, Calif., June 17-19. The program for the meeting will consist of papers and discussions dealing with the physiology and diseases of the thyroid gland.

MEETING

The 28th Annual Meeting of the Biological Photographic Association will be held at the Shoreham Hotel in Washington, D.C., from August 18-21. All representatives of the photographic, medical, and scientific professions are invited.

PHARMACOLOGY REPORT TRANSLATION

Russia's five-year plan for research in pharmacology which is in a report form has been translated and is available under the title, "Problems Involved in Five-Year Plan for Research in Pharmacology for 1956-1960." For copies write to the Publications and Reports Section of the Scientific Reports Branch, National Institutes of Health, Public Health Service, Bethesda 14, Maryland.

REPORTS AVAILABLE

ITR-1469, *Tertiary effects of blast—displacement, Preliminary report, Project 33.3 of Operation Plumbbob,* December, 1957, 36 p., $1.00.

NP-6435, *Hematological investigation of the atomic bomb sufferers in Hiroshima and Nagasaki City,* 1952, 33 p., $1.00.

Above can be obtained through Office of Technical Services, U. S. Department of Commerce, Washington 25, D.C.

GOVERNMENT PUBLICATIONS

Ophthalmology and Otolaryngology, Army Med. WWII, Cat. No. D 104. 11Su 7/7 ..... $5.00

The Planning of Rehabilitation Centers, Cat. No. FS 13.207:420 ..... 1.25

Survival, Cat. No. D 101.20:21-76 .. .75

Hospital Diets, Cat. No. D 101.11:8-500/2 ..... .40

Amino Acid Content of Food, Cat. No. A 87:4 ..... .45

Any of above may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C. (Cash or check—no stamps)

WHO PUBLICATIONS

Int. Standard for Tetracycline & Erythromycin, Etc. Bull. Vol. 17, No. 4-5 ..... $4.00
Onchocerciasis and Filariasis Bull. Vol. 16, No. 3/57 ..... $2.00
San. Engin. and Water Economy in Europe. Bull. Vol. 16, No. 4/57 .. 2.00
Typhoid Vaccines, Relapsing Fever, Diphtheria. Bull. Vol. 16, No. 5/57 2.00
Endemicity, Schistosoma, Insecticide Resistance. Bull. Vol. 16, No. 6/57 2.00
Schistosoma, Cholera. Vol. 17, No. 1/57 ..... 2.00
Tuberculosis. Vol. 17, No. 2/57 ..... 2.00

Any of above may be ordered from Columbia University Press, IDS, 2960 Broadway, New York 27, N.Y.

PEDIATRIC COURSES

The following short refresher courses will be given by the University of Pennsylvania Graduate School of Medicine, Philadelphia, for practitioners, pediatricians, and clinical pathologists: *Pediatric Advances* (May 26-30, tuition $115); *Practical Pediatric Hematology* (June 2-4, tuition $75); *Hemolytic Disease of the Newborn* (June 5 and 6, tuition $50).

Further information may be obtained by contacting Irving J. Wolman, M.D., Children's Hospital of Philadelphia, 1740 Bainbridge St., Philadelphia 46, Pa.

POSTGRADUATE COURSES, NYU

Seven courses will be given on a new summer-time basis by the New York University Post-Graduate Medical School:

Modern Methods in the Recognition and Treatment of Heart Disease (June 23-25).

Symposium on Modern Therapeutics in Internal Medicine (June 9-20).

The Management of Chronic Kidney Disease (June 23-24).

Acute Neurological Problems of General Practice (June 23-27).

The Management of Hypertension (June 25-26).

Review Course in General Medicine (July 7-18).

Auscultation of the Heart (July 16-18).

For further information write: Associate Dean, NYU Post-Graduate Medical School. 550 First Ave., New York 16, N.Y.

INFERIOR COMPLEX?

If we as Americans have an inferiority complex over the Sputnik incident let's take a look at this: According to the 1958 edition of the *World Almanac,* among 367 of the world's great inventions and discoveries listed, the score includes:

United States	202	British	62
German	33	French	30
Italian	15	Austrian	6
Swedish	5	Belgian	3
Dutch	3	Danish	2
Czech	2	Russian	2

The two Russian discoveries are in petroleum and its recent Sputnik. In chemistry and physics where radio, television, and the press have scored the Free World as weak, the 80 nations listed for great discoveries are: United States . . . 30, German . . . 21, British . . . 18, French . . . 7, Italian . . . 2, Polish . . . 1, Danish . . . 1, and Russian . . . 0.

So after the wave of emotionalism is over and we take an inventory we find out that in nations of free thinking things do get accomplished. In what Iron Curtain country could the press have chastized its government as was done by the press of the free world in case of Sputnik? Let's be thankful that we live in a world of a free press and free thought.

SAFETY

"Seems like we no longer measure out highways by the mile," laments Charlie Thomas, our town's Chief of Police, "but by the *killometer.*"—BURTON HILLIS, *Better Homes & Garens.*

EDUCATION

"We need educated people in all phases of life. We should not force everyone to go

off on a science binge."—Dr. Graham Du Shane, editor, *Science Magazine.*

AUTOMOBILES

Ever wonder how much it costs to run your car for a year? If it is an "average" car and you drive it 10,000 miles, about $1,034, or roughly $2.83 a day. An AAA estimate gives this breakdown: depreciation, $530; licenses, $18; insurance, $106; gasoline, $250; repairs and maintenance, $75; tires, $55. The cost has gone up 10% in the last two years; and will probably rise another 5% in 1958.—*Minutes,* Nationwide Life Ins. Co.

Honor Roll

Since the publication of our last list, the following sponsored one or more applicants for membership in the Association:

Major William F. Bruckel, MC, NY NG
Carrol P. Naidorf, M. D.
Capt. H. C. Hunley, MC, USN
Cdr. Mary C. Grimes, MC, USNR
Lt. Cdr. M. M. Hoffman, MSC, USNR
Maj. Edward A. Barrett, MC, USAR
Lt. Col. Raymond Edlin, USAR, DC
Lt. Col. Donald J. Winslow, MC, USA
1st Lt. William R. Schnarr, MSC, USAR
Robert Turell, M. D.
S. A. Surg. Robert A. Milch, USPHS
Col. Charles Mueller, MC, Ret.
Lt. Col. George M. Beam, AUS, Ret.
Lt. Col. Paul A. Dressel, MC, USAR Ret.
Med. Dir. Bryon Olson, USPHS
Col. George B. Green, USAF (MC)

Correspondence

To the Editor, Military Medicine:

I would like to take the liberty of criticizing certain aspects of Dr. Koontz' paper, printed in the last number—in, as he puts it, "the spirit of family criticism."

(See January 1958 issue of Military Medicine —Editor.)

My reasons for doing so are twofold. In the first place, Dr. Koontz has, unwittingly perhaps, misinterpreted the original purpose of the Association—to the extent that I am sure Dr. Senn, as its founder, has turned over in his grave many times. In the second place, I personally am of the opinion that the doctrine propounded by Dr. Koontz, with respect to what the Army should have in the way of a Medical Corps officer is not in the best interest of the service. The Medical Corps cannot turn its back on administration, nor, I might add, on organization and tactics, material development, training, and combat development. To do so is to relinquish responsibility for the welfare of the soldier in combat—and reduce the "military doctor" to the status of the electronic equipment repairman. If it is said that there is no need to relinquish one's proficiency in the practice of medicine to become accomplished in these other fields, I would say that the speaker is ignorant of the extent of the problem.

I do not, of course, take issue with the plea for professional excellence. I *do* take issue with the implication that the professional excellence of a Medical Corps officer can be measured only in terms of hospital practice. I have not, perhaps, the military experience of Dr. Koontz, but I can assure him that a field army surgeon, in meeting his responsibilities in war, has an extremely high regard for a hospital commander who can move his unit to where it is needed, when it is needed, and treat all the patients he receives. In a crisis, he is not particularly concerned with the symmetry of casts.

As a matter of fact, the field army surgeon does not look with distaste upon the staff officer who foresaw the need for the hospital to be where it is, and knew enough about the internal mechanism of the army to arrange to get it there.

"For many years National Guard officers, probably due to the persisting and pervading influence of Nicholas Senn, played a large part in the affairs of this Association.—" So said Dr. Koontz in his introduction. I think it would help explain this situation if I quote the name of the organization as it was founded; "The Association of Military

Surgeons of the National Guard of the United States."

The preamble of the Constitution and By-laws of the Association originally read as follows: "We, the undersigned, Surgeons of the National Guard of the United States, in order to promote and better the science of Military Surgery, do hereby agree to associate ourselves together and be governed by the following."

This looks rather "professional" in the sense that Dr. Koontz would have it, but let us look at what a contemporary dictionary had to say about "military surgery." We find: "Military Surgery.—Restricted to its rigorous signification, *Military Surgery* is the surgical practice in armies; but in its broad and *ordinary* (italics those of Col. Parker) acceptation embraces many other branches of art, comprehending the practice of medicine, sanitary precautions, hospital administration, ambulances, etc." (Farrow's Military Encyclopedia, New York, 1885).

Dr. Senn's first address to the Association, on the subject of its mission, contained the following passage:

"—There are now about 500 medical officers connected with the National Guard service. This is an important part of our citizen soldiery. I have every reason to believe that most, if not all, of these officers are good physicians, but we must all admit that few of them possess the requisite qualifications and training to satisfactorily perform the manifold duties required of a military surgeon. With commendable zeal our regimental and company officers study their books on military tactics during their leisure hours, and apply the knowledge thus gained week after week in drilling the men under their command until they become masters of the situation. The non-commissioned officers and privates receive regular instruction weekly, and once a year officers and soldiers spend a week or two in camp, review the work done during the year, make new plans for the future, and return home, well versed in the art of war. What did the medical officers do all this time? Few, if any, made a serious study of standard works on military surgery and hygiene. They attended the encampment, wrote prescriptions, or dispensed medicines to those who applied for treatment, occasionally dressed a wound or fractured limb, and only very few imparted their knowledge of the litter drill to a small detail of privates and noncommissioned officers. Most of them, even if they had a desire, had no opportunity to make themselves more proficient for camp or field service. I have often heard the complaint made that the line officers do not show proper respect for the military surgeon, and do not treat him with becoming courtesy. How could it be otherwise? The only way to command respect in military circles, as in other positions in life, is by meritorious work, and this is appreciated everywhere. As soon as the military officer has the necessary advantages and inducements to perfect himself in his special work and makes good use of them, he will be recognized and his position in the service will be respected by officers and privates alike.—"

Dr. Senn does not try to minimize the "administrative" aspects of the role of the military surgeon. On the contrary, he seems to imply that being a good physician is not enough.

Dr. Koontz again disturbs me by the manner in which he refers to General Edward Lyman Munson, the author of the objectionable statement "First a soldier, second a sanitarian, and third a surgeon." Perhaps it serves Dr. Koontz' purpose to dismiss Munson as the "designer of the Munson shoe," but it might mislead some of our members who are not quite so well grounded in the history of the Army Medical Service. As a matter of fact, while twiddling his thumbs in the course of various "administrative" assignments from 1893 to 1932, General Munson managed to accomplish, among other things, the following:

Published *Theory and Practice of Military Hygiene,* said by this journal to be the first text in English on the subject.

Received the Military Service Institution's gold medal for his essay "The Ideal Ration for an Army in the Tropics."

Served as Health Officer of the Philippines following the Insurrection.

Published *A Study in Troop Leading.*

Published *The Soldier's Foot and Shoe.*

Published *The Principles of Sanitary Tactics.*

Was appointed Professor of Preventive Medicine at the George Washington University.

Served as Chief of the Morale Branch of the General Staff in 1918.

On retirement, appointed Professor of Preventive Medicine at the University of California.

At the beginning of World War II, he published the widely used *The Management of Men.*

I believe that if one measures this man's contribution to the "conservation of fighting strength," in his time, it is reasonable to conclude that he did about as well as he could have done as an operating surgeon.

Dr. Koontz says, at another point:

"——I would like to see the day when certain minimal standards of professional attainment would be set up for the advancement to general officer of flag grade. Then no one could complain if a man who had these requirements and also exceptional executive ability were advanced over his fellows, who had outstanding professional qualities but who did not possess administrative qualifications."

Of this I will say that "exceptional executive ability" is not enough. I am sure that Dr. Koontz would not recommend a hospital administrator for

chief of a surgical service simply because he possessed exceptional manual dexterity. At this particular time there is a great deal to be known about the Army Medical Service if one is to function adequately in a command or staff position—and it is very difficult to learn it in a hospital. If this policy were followed to its logical conclusion, in a few years we would have no medical officers qualified to assume the duties of corps, army or theater surgeons. Perhaps Dr. Koontz would prefer that the "Military Doctor" not be saddled with such duties.

This problem of the medical officer performing duties which are neatly shrugged off as being "administrative" is quite simple. A commander in the field has two basic needs for which he turns to the medical service. One is the technical supervision of matters pertaining to the health of his command. The other is the organization, training, and direction of the medical force by which the health of his command is maintained. I am old-fashioned enough to believe that the technical supervision should be in the hands of a medical officer. I am also old-fashioned enough to believe that the second responsibility should not be separated from the first. If the medical profession wishes to pass these responsibilities to other hands, then we can indeed all concentrate on clinical perfection.

Finally, I am amazed that Dr. Koontz, with his strong identification with the Army, could say:

"—I am glad that the Medical Departments of the Armed Forces did not succumb to A.M.A. pressures to abandon dependent care. Such a program would be bad for the professional competence of the military doctor.—" I think that I would be reluctant to show this statement to my friends, of whom roughly 99.8% are officers of the line and other services.

I hope that, in spite of its being a presidential address, this paper no longer reflects the policy of the Association. If it is to accomplish the mission for which it was founded the Association must recognize the profession of the Military Surgeon. It must help to prepare civilian doctors to assume the role of Military Surgeon in war. This is very important now, for there is every indication that a new war will not give us time to send doctors through Field Service schools. As a matter of fact, the civilian physician may well find himself called upon to practice Military Surgery in the broadest sense without ever leaving his community.

H. S. Parker,
Colonel, Medical Corps,
United States Army

18 Sumner Place,
Ft. Leavenworth, Kansas.

To the Editor of Military Medicine:

It is perfectly obvious that Col. H. S. Parker in his letter completely missed the import of my Presidential Address before the Association of Military Surgeons. I never in any way intimated that administrative work or field medical service was not important in the Army. Everyone with any experience knows that it is. I have acted as battalion surgeon, regimental surgeon, and division surgeon, so I am entirely familiar with all those phases of the work of the Army Medical Officer. I do contend, however, that the Medical Officer should be professionally competent so far as medicine is concerned as well as so far as the military is concerned. He can be both and should be both. During my long years of military service, I have had contact with many medical officers who knew nothing about medicine, but who were supposed to be good "administrators," and who were as dead as a dodo from the neck up. They not only knew nothing about medicine but very little about anything else. I believe it now to be the general consensus that such people have no place in the service.

Colonel Parker is also entirely wrong in intimating that I suggested that the professional excellence of a medical officer should be measured in terms of hospital practice. I neither said nor intimated anything of the sort.

No one could possibly have more contempt than I have for the doctor in military life who wants to be a doctor only and have no part in military activities. I consider him just as bad as the medical officer who feels that his primary duty is military life and that his professional duties are secondary. Neither type has any place in the service. I do hold, however, that the medical officer should first of all be a good doctor. That in no way precludes him from, or excuses him from, carrying on his military duties as well. To make excuses for, and give promotions to, a medical officer who does a good administrative job and is a poor doctor is to lower the efficiency and professional standing of the medical services of our Armed Forces.

I think this brief statement is enough to show the complete misconception which Colonel Parker gathered from reading my address.

Amos R. Koontz, M.D.

1014 St. Paul Street
Baltimore 2, Maryland

Colonel Parker was a Resident in Medicine at Walter Reed Army Hospital; he is the recipient of the Hoff Medal "For Highest Standing at the Army Medical Department Research and Graduate School." He holds an Associateship in the American College of Physicians.

Dr. Amos R. Koontz is a brigadier general in the Maryland National Guard. He is on the staff of Johns Hopkins Hospital in Baltimore; served in the Medical Corps of the U. S. Army in World Wars I and II; and was President of the Association of Military Surgeons *of the United States in 1957.*

Editor.

OBITUARIES

Capt. Hugh W. Garol, MC, AUS

Hugh William Garol, Captain, Medical Corps, AUS, died February 14 at San Francisco, Calif., at the age of 47.

Doctor Garol was a native of Goldfield, Nevada. He received his A.B. degree from the University of California in 1933, and his medical degree (cum laude) from McGill University in 1938. He had specialized in neurosurgery and during World War II served in that capacity at England Army General Hospital, Atlantic City, N.J. After the war he resumed private practice first at San Jose, and later at San Francisco, Calif.

He was a consultant in neurosurgery to Letterman Army Hospital at San Francisco. He was a diplomate of the American Board of Neurological Surgery; the American Board of Psychiatry and Neurology (in Neurology); a Fellow of the American College of Surgeons; a member of the American Medical Association, the Harvey Cushing Society, the Association for Research in Nervous and Mental Diseases, and the Association of Military Surgeons. He was author and co-author of numerous articles in medicine.

Doctor Garol is survived by his widow who resides at 540 Funston Ave., San Francisco, Calif.

Major Clifford C. Carter, MC, USAR

Doctor Clifford C. Carter of Flushing, N.Y., died on January 12 in Kew Gardens General Hospital at the age of 42.

He graduated in 1938 from St. Louis University School of Medicine. During World War II he served with the U. S. Army Medical Corps in the South Pacific.

Doctor Carter was a member of the Queens County Medical Society, the Medical Society of the State of New York, the Association of Military Surgeons of the United States, and the American Medical Association.

Col. Robert T. Gants, MC, U. S. Army

Robert T. Gants, Colonel, Medical Corps, U. S. Army, died at Walter Reed Army Hospital, February 16, at the age of 52.

Colonel Gants was a native of Kansas. He received his medical degree from the University of Kansas in 1930. After completing an internship at Kansas City (Kan.) General Hospital, he returned to the University of Kansas in 1931 where he took a year of graduate training in pathology. From 1932 to 1934, he held an assistantship and preceptorship with Dr. E. Lee Miller of St. Luke's Hospital, Kansas City, Mo., as part of his University of Kansas residency training.

In 1934 Doctor Gants, entered the Army Medical Corps. The following year he graduated from the Army Medical Field Service School then located at Carlisle Barracks, Pa. During World War II he served in the European Theater. His last active duty station was at William Beaumont Army Hospital, El Paso, Tex., where he was Chief of the Department of Surgery. Among his military decorations were the Bronze Star, Legion of Merit, and Army Commendation Ribbon with Metal Pendant.

Colonel Gants was a Diplomate of the American Board of Surgery, a Fellow in the

American College of Surgeons, and a founding member of Alpha Omega Alpha, honorary medical fraternity.

He is survived by his widow, Mrs. Lorraine C. Gants, Washington, D.C.; a son, Robert M., cadet at the U. S. Military Academy; and a daughter, Mrs. Margaret F. Webb, Winter Haven, Fla.

Interment was at Arlington National Cemetery.

A THREAT TO MEDICAL RESEARCH

Representative Usher Burdick of Williston, North Dakota, on February 26, 1958, introduced HR 10996, a bill to prohibit the interstate transportation of any dog or cat for the purpose of *vivisection or other means of medical or scientific experimentation.*

The proposed legislation also contains a provision for a fine not to exceed $1,000, imprisonment or both, under certain conditions, on any person involved, should a dog or cat be moved interstate to be used for the purpose stated in the bill.

This bill was referred to the Committee on Interstate and Foreign Commerce, House of Representatives, of which Committee Representative Oren Harris (D-Ark.) is chairman.

You may desire to write the Committee Chairman and/or your Congressman about the disastrous effect this bill, if enacted, would have on medical and other scientific research.

NEW BOOKS

Books may be ordered through the Association.

You Must Relax—Edmund Jacobson, M.D. (4th Ed.), McGraw-Hill Book Co., Inc. Price $4.50.

Brain Tumors (Their Biology & Pathology) Translated—Rothballer & Olszewski, Spring Publishing Co., Inc., New York. Price $9.50.

Clinical Orthopaedics #10, Editor-in-Chief: A. F. DePalma, M.D., J. B. Lippincott Co., Philadelphia 5, Pa. Price $12.00.

Understanding Your Patient, Edited—S. Liebman, M.D., J. B. Lippincott Co., Philadelphia 5, Pa. Price $5.00.

The Forequarter Amputation, Moseley, M.A., D.M., M.Ch., F.R.C.S. (Eng. & Canada) F.A.C.S., J. B. Lippincott Co., Philadelphia, Pa. Price $10.00.

Biochemistry of Some Peptide and Steroid Antibiotics, 96 pages, by E. P. Abraham (CIBA Lectures in Microbial Biochemistry)—John Wiley & Sons, Inc., New York, N.Y. Price $3.00.

Management of the Handicapped Child, H. Michal-Smith, Editor. Grune & Stratton, New York. Price $6.50.

The Relation of Psychiatry to Pharmacology, Abraham Wikler, M.D. The Williams and Wilkins Co., Baltimore 3, Md.

Clinical Heart Disease—Samuel A. Levine, M.D. W. B. Saunders Co., Philadelphia, Pa. Price $9.50.

Office Gastroenterology, Albert F. R. Andresen, M.D., W. B. Saunders Co., Philadelphia, Pa. Price $14.00.

A Textbook of Clinical Neurology, Israel S. Wechsler, M.D. W. B. Saunders Co., Philadelphia, Pa. Price $11.00.

Gynecologic and Obstetric Pathology, with Clinical & Endocrine Relations, Emil Novak, A.B., M.D., Saunders Co., Philadelphia, Pa. Price $14.00.

Forensic Medicine, Sixth Edition, Kerr, Douglas, Macmillan Co., 60 Fifth Ave., New York 11, N.Y. Price $6.50.

General Diagnosis & Therapy of Skin Diseases, Hermann Werner Siemen, M.D., University of Chicago Press, 5750 Ellis Ave., Chicago 30, Ill. Price $10.00.

Drugs, Their Nature, Action and Use, Harry Beckman, M.D., W. B. Saunders Company, Philadelphia, Pa. Price $15.00.

Cardiovascular Collapse in the Operating Room, Herbert E. Natof, M.D., and Max S. Sandove, M.D., J. B. Lippincott Co., Philadelphia 5, Pa. Price $6.00.

Operative Surgery, Vol. V. (Set of 8), Charles Rob & Rodney Smith, F. A. Davis Co., Philadelphia 3, Pa. Price $19.50 (each vol.).

Functional Organization of the Diencephalon, W. R. Hess, Grune & Stratton, Inc., New York. Price $7.00.

Noise and Your Ear, Aram Glorig, Jr., M.D., Grune & Stratton, Inc., New York. Price $6.50.

Doctors in Gray, H. H. Cunningham, Louisiana State University Press, Baton Rouge 3, La. Price $6.00.

Self-Help Devices for Rehabilitation (National Foundation for Infantile Paralysis) New York University-Bellevue Medical Center, Publisher Wm. C. Brown Co. Dubuque, Iowa.

The First Book of World War II, Louis L. Snyder, Franklin Watts, Inc., New York, N.Y. Price $1.95.

Preventive Medicine, Hugh Rodman Leavell, Md., E. Gurney Clark, M.D., McGraw-Hill Book Co., Inc., New York, N.Y. Price $10.00.

Spinal Anesthesia, John B. Dillon, Charles C. Thomas Publisher. Price $3.00.

Objective Approaches to Treatment in Psychiatry, Leo Alexander, Charles C Thomas, Publisher, Springfield, Ill. Price $4.50.

Cerebral Cortex and the Internal Organs, Konstantin M. Bykov, MD, Chemical Publishing Co., Inc., 212 Fifth Ave. N.Y., N.Y. Price $15.00.

Chemotheraphy and the Central Nervous System, Henry McIlwain, Ph.D., D.Sc., Little Brown & Co., Boston, Mass. Price $10.00.

Eden & Holland's Manuel of Obstetrics, Alan Brews, M.D.—11th Ed. Little Brown & Co., Boston, Mass. Price $11.00.

Recent Advance in Urology, Howard G. Hanley, M.D., Little Brown & Co., Boston, Mass. Price $7.00.

A.M.A. Scientific Exhibits 1957, American Medical Assoc. Grune & Stratton, Inc., New York 16, N.Y. Price $15.00.

Ulcerative Colitis, Harry E. Bacon, M.D., J. B. Lippincott Company, Philadelphia 5, Pa. Price $15.00.

Modern Pharmacology and Therapeutics, Musser-Bird, Macmillan Co., New York, N.Y. Price 6.75.

Medical Jurisprudence and Toxicology, John Glaister, The Williams and Wilkins Co., Baltimore, Md. Price $10.00.

Heart Disease and Pregnancy, C. Sidney Burwell, Md. & James Metcalfe, Md., Little Brown & Co., Boston, Mass. Price $10.00.

Vertigo & Dizziness, Bernard J. Alpers, M.D., Grune & Stratton, Inc., New York 16, N.Y. Price $5.00.

Essence of Surgery, C. Stuart Welch, Samuel R. Power, Jr., W. B. Saunders Co., Philadelphia 5, Pa. Price $7.00.

Erythroblastosis Fetalis, Fred H. Allen, Jr., M.D., Louis K. Diamond, M.D., Little Brown & Co., Boston, Mass. Price $4.00.

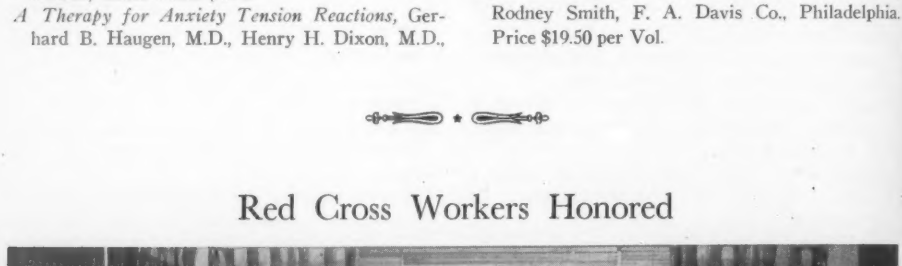
A Therapy for Anxiety Tension Reactions, Gerhard B. Haugen, M.D., Henry H. Dixon, M.D., Herman A. Dickel, M.D., MacMillan Co., New York, N.Y. Price $3.50.

General Pathology, Edit. Sir Howard Florey, W. B. Saunders Co., Philadelphia, Pa. Price $16.00.

Current Therapy 1958, Edit. by Howard F. Conn, M.D., W. B. Saunders Co., Philadelphia, Pa. Price $12.00.

Operative Surgery, Vol. 6, edit. Charles Rob, MC, Rodney Smith, F. A. Davis Co., Philadelphia. Price $19.50 per Vol.

Red Cross Workers Honored



U. S. Army Photo

Gray Ladies contribute greatly to the personnel needs of the Medical Service of the Armed Forces. These volunteers of the American Red Cross have many special projects in connection with the medical activities of a hospital or dispensary.

Recently at the Fort Myer (Va.) Army Dispensary, the Gray Ladies and Staff Aides were honored. Each volunteer worker received a "Fort Myer Certificate of Achievement" from the Commanding Officer of Fort Myer, Colonel William H. Spicer.

The speaker at the "tea" was Major General James P. Cooney, Deputy Surgeon General of the Army. He said, "There is the science of practicing medicine and the art of practicing medicine. Unfortunately in our hospitals today, our doctors are so busy with the science they have little time for the art, the pat on the head, the 'how are you feeling this morning' which are a vital part of medical care. This is where the Red Cross worker fills a real need, providing the 'art' of medical care."

The dispensary, commanded by Colonel Harlan H. Taylor, Medical Corps, U. S. Army, is reputed to be the busiest military dispensary in the world.

BOOK REVIEWS

SPONTANEOUS AND HABITUAL ABORTION. By Carl T. Javert, M.D., Professor of Clinical Obstetrics and Gynecology, College of Physicians and Surgeons of Columbia University. 450 pages, illustrated. The Blakiston Division, McGraw-Hill Book Company, Inc., New York, Toronto, London. 1957. Price $11.00.

A detailed study of 2,000 spontaneous and habitual abortion specimens furnishes the basic material for this well organized and written book. Dr. Javert, who is both a clinician and experienced obstetric and gynecologic pathologst, presents the current teachings and practice as conducted at the Lying-In Hospital of New York in which he has served for the past 20 years.

The book is divided into five parts. Part 1, Introduction including methodology and physiology; Part 2, Pathology, maternal and fetal; Part 3, Clinical Obstetrics; Part 4, Psychosomatology; and Part 5, Epilogue, including an expansive bibliography.

The author is one of the pioneers in the field of the psychosomatic aspects of this problem, and special attention is directed towards psychosomatic therapy.

Dr. Javert endeavors to emphasize some of the facets of the abortion problem that have been neglected, omitted, or rarely mentioned in current text books. This study will prove immediately useful to the obstetrician, gynecologist, psychiatrist, and general physician.

COL. J. WALTON DARROUGH, MC, USAR

PERIPHERAL CIRCULATION. IN HEALTH AND DISEASE. By Walter Redisch, M.D., F.A.C.P., Associate Professor of Clinical Medicine, New York University College of Medicine; and Francisco F. Tangco, M.D., B.S., Assistant Professor of Medicine, University of the Philippines Medical School. With a special section by R. L. deC. H. Saunders, M.D., F.R.S.E., Professor and Head of the Department of Anatomy, Dalhousie University Medical School, Halifax, Nova Scotia. 154 pages, illustrated. Grune & Stratton, New York and London. 1957. Price $7.75.

Peripheral Circulation in Health and Disease is one of the best books in its field giving a very clear and concise description of peripheral circulation. It is extremely well written and easily read.

There is a clear and concise description of the anatomy and physiology followed by a chapter on the clinical methods of evaluating blood flow.

There is a well organized chapter detailing the various pathological disorders of each part of the peripheral circulatory system. The effects of disturbances elsewhere in the body on peripheral circulation are also described. There is a very short chapter dealing with what is known to date about development of collateral circulation.

The bibliography at the end of each section is very complete and would be most helpful to persons interested in basic research. The chapter on management and therapy is very up-to-date. It does not go into the technical details of surgical management but is otherwise quite complete.

In the final section of the book there is explained a new development in the understanding of the blood supply in muscles. The vessels supplying muscles have been injected with small particle opaque media with microarteriographic technics. Microateriograms and steromicroarteriograms were made and studied showing the concept of macromesh and micromesh arterial circulation within the muscle.

After reading the entire book the reader will have a very workable understanding of peripheral circulation and if he desires additional special details they would be readily available in the well documented bibliography.

This particular book is highly recommended for all persons who have an interest in the vascular system.

RAYMOND N. BROWN, M.D.

SYSTEMIC ARTERIAL EMBOLISM. Modern Medical Monograph #14. By John Martin Askey, M.D., Associate Clinical Professor of Medicine, University of Southern California School of Medicine. 157 pages with illustrations. Grune & Stratton, New York and London. 1957. Price $5.75.

Systemic Arterial Embolism is a medical monograph on the problem of systemic arterial emboli. Dr. Askey substantiates his statements throughout the book with a considerable number of references and statistics and develops a rather complete idea of the statistical chances for emboli from heart disease and also of the morbidity and mortality of the emboli that arise from the different types of cardiac disease. He discusses the known factors of thrombotic disease, the coagulability of the blood, damage to the vascular endothelium and vascular stasis, and discusses each as they pertain to the dif-

ferent cardiac diseases. From the data obtained from the pathogenesis and the statistical evidence of morbidity, he discusses treatment first from a preventive standpoint and then particularly from the standpoint of preventing recurrences of emboli.

Clinicians who are concerned with thromboembolism and cardiac disease should be thoroughly familiar with the material contained in this monograph.

As a whole the monograph is easy to read but there is considerable duplication of the data in various chapters.

RAY N. BROWN, M.D.

CLINICAL PROCTOLOGY. 2nd Ed. By J. Peerman Nesselrod, M.D., M.S., M.Sc., F.A.C.S., F.A.P.S., Ass't. Professor of Surgery, Northwestern University Medical School. 296 pages, 72 figures. W. B. Saunders Company, Philadelphia and London. 1957. Price $7.00.

Nesselrod has succeeded admirably in his intention of producing a work on Proctology of value to the General Practitioner. Of outstanding value are the chapters on Anatomy and Physiology, Diagnostic Procedures, Hemorrhoidal Disease, Rectal Prolapse. The descriptions of surgical procedures and anatomical illustrations are splendidly conceived and executed. The color photographs of lesions as seen through the sigmoidoscope are most helpful but the value of the book would be increased if there were more of them. The chapters on clinical proctoscopy and neoplastic disease could be read with profit by all who do sigmoidoscopy.

This book is recommended for all who do sigmoidoscopy, proctoscopy or proctologic surgery.

COL. RYLE RADKE, USA, RET.

PREVENTION OF CHRONIC ILLNESS—CHRONIC ILLNESS IN U.S., Vol. I. Commission on Chronic Illness, an independent national agency to study the problems of chronic disease, illness and disability. 338 pages. Published for The Commonwealth Fund by the Harvard University Press, Cambridge, Mass. 1957. Price $6.00.

This is the first in a series of four volumes on Chronic Illness in the United States, based upon the monumental work of the 46 member "Commission on Chronic Illness," assisted by 41 expert technical advisers.

Part One ably sets forth the role and objectives of disease prevention in general and gives various methods of promoting health. Included are chapters pertaining to periodic health examinations, personnel and education, community planning, concluding with the Commission's 21 important conclusions and recommendations. In *Part Two* are summarized the preventive aspects of 13 major chronic diseases and impairments: arthritis, blindness, cancer, cardiovascular diseases, cerebral palsy, diabetes, epilepsy, impaired hearing, mental illness, multiple sclerosis, polio, syphilis and tuberculosis. Other chapters deal with industry, dental health, emotional factors, heredity, malnutrition and obesity as related to chronic illness.

Every physician, dentist, nurse and all who deal directly or indirectly with problems pertaining to health and disease—should read this interesting and noteworthy volume.

COL. H. P. MARVIN, USA, RET.

ANNUAL EPIDEMIOLOGICAL AND VITAL STATISTICS, 1954. Prepared by the World Health Organization, Geneva. 617 Pages. Available in the U.S. through Columbia University Press, IDS, New York City. Price $10.00; Swiss francs 30, through WHO Geneva.

This book is written in both French and English. It contains vital statistics for 1954 of countries of the world. The information is set forth in tables which show population, causes of death, cases of communicable diseases. There is a new section which gives information on health personnel, hospitals, and vaccinations.

For those who need this type of information the value of the book is inestimable. It would require much research to obtain the same information since this statistical data has been obtained through questionnaires distributed by WHO.

LCM

PHYSIOLOGIC PRINCIPLES OF SURGERY. 50 contributors. Edited by Leo M. Zimmerman, M.D., Professor and Chairman of the Department of Surgery, Chicago Medical School; and Rachmiel Levine, M.D., Chairman, Department of Medicine, and Director, Dept. of Metabolic and Endocrine Research, Michael Reese Hospital. 988 pages, illustrated. W. B. Saunders Company, Philadelphia and London. 1957. Price $15.00.

This volume, divided into thirty-six chapters, defines surgical disease in terms of basic physiology. In addition, chapters are present which thoroughly define the physiologic fundamentals of pre-operative and post-operative care. The index is an excellent one and very easily used. The comprehensive bibliographies at the end of each chapter represent a valuable addition to this book.

Some of the chapters which particularly stood out for their excellence are those on "Transplantation of Tissues" by Cannon and Murray; the chapter on "Pain" by Sadove and Schiffrin; "The Esophagus" by Sweet and Wilkins; "The Large and Small Intestine" by Zimmerman; "The Pancreas" by Colp and Dreiling; "The Thyroid Gland" by Oliner and "The Parathyroid Glands" by Cope and Nardi.

Although this book might profit by more fre-

quent illustrations, it is highly recommended for all those who are in surgical practice, research, or training.

LT. COL. ROBERT D. PILLSBURY, MC, USA

ANALYTICAL PATHOLOGY. Edited by Robert C. Mellors, M.D., Ph.D., Ass't., Professor of Pathology, Cornell University Medical College, Sloan-Kettering Division, New York. 477 pages, illustrated. The Blakiston Division, McGraw-Hill Book Company, Inc., New York, Toronto, London. 1957. Price $12.00.

This is a collection of treatises dealing with the details of the results of investigative endeavors in seven fields. They include the biology, biochemistry, and pathology of cancer; the relationship of blood lipids with arteriosclerosis and hypertension; the detailed examination of various types of inflammatory and vascular disease of the glomerulus; and a discussion of three manifestations of hepatic failure: "cholemia," ascites and hemorrhagic diatheses.

Other topics treated are: a study of the basic morphology and dynamic inter-relationships of the adenohypophysis with other endocrine systems of the body; a description and etiologic integration of the various macrocytic anemias; a detailed description of the various hemoglobins A through J and their genetic relationships; and the role of the connective tissue as an organ of hypersensitivity.

Each of the nine authors has placed his main emphasis on the microscopic anatomy and its pathologic variations; but arming this viewpoint is an extensive and appreciative use of biochemical, physiologic, and pharmacologic data. The result is a comprehensive exposition of the present state of knowledge and emphasis together with a reasonable hesitancy with regard to the final evaluation of each chosen topic.

In addition to serving as an outline of "what we know" (with its 1807 references to the original literature) it also will serve as a signpost to "what should be studied next" and delineates to some extent our "areas of ignorance."

LT. J. H. BOUTWELL, JR., MC, USNR

PRACTICAL OTOLARYNGOLOGY. By Gervais Ward McAuliffe, M.D., F.A.C.S., F.I.C.S., Associate Clinical Professor of Otolaryngology, Cornell University Medical College. 320 pages. Blakiston Division, McGraw-Hill Book Co. 1957. Price $7.00.

Usually the average intern, aside from doing an occasional tonsillectomy, has little time for the ENT clinic. Even if he goes there, by the time he masters the headmirror he is rotated to another service. This volume presents some simple concepts of anatomy, diagnosis, and therapy which are helpful for the type of superficial otolaryngology seen by the doctor with minimal training in the subject.

The usual topics are covered: anatomy of the ear; examination and functional tests of the ear; pathological conditions of the external auditory canal; diseases of the middle ear; the mastoid; dizziness; anatomy and diseases of the nose and paranasal sinuses; common cold; allergic rhinitis; surgery of the paranasal sinuses; sinusities in children; post nasal drip; the tonsils; hoarseness; emergencies in otolaryngology.

The author is enthused over his "wet treatment" of acute and chronic tonsillitis. He uses wet suction with physiological saline with the intent of eliminating accumulated accretions by mechanical cleansing. He states that it has proved effective not only in aborting acute infections but also in combating long-standing chronic infections. Perhaps, but how can the author tell whether or not the acute infection would have cleared up without the wet treatment. There can be no control of experiment when one speaks of "aborting." For both the acute and chronic cases there is ample proof that the antibiotics are efficient. If they fail there is always tonsillectomy.

There is a well written section on cough. However, for a book on otolaryngology it might be more in keeping if the space were used for more detailed text and illustrations of surgical methods. The author has contributed many excellent drawings.

PHILIP H. SMITH, M.D.

RHEUMATIC DISEASES, RHEUMATISM AND ARTHRITIS. By Heinrich G. Brugsch, M.D., F.A.C.P., Assistant Professor of Medicine, School of Medicine, Tufts University. 330 pages, 57 figures. J. B. Lippincott Company, Philadelphia and Montreal. 1957. Price $10.00.

The reader is introduced to the text by the discussion of the history, anatomy, physiology, examination of the patient, laboratory procedures and x-ray studies pertinent to the study of the rheumatologic patient.

Rheumatic fever, rheumatoid arthritis, including ankylosing spondylitis, Collagen disease, degenerative arthritis and gout are thoroughly, concisely and clearly covered in separate chapters. Infectious arthritis, allergic arthritis, symptomatic arthritis, joint tumors and diseases simulating rheumatic diseases, are given careful consideration. Photograph, x-ray reproductions and a bibliography at the close of each chapter amplify the text.

This work is primarily written for the practicing physician and the postgraduate student. It is considered an excellent introduction to the field of rheumatology. A full index is found at the end of the text.

COL. CHARLES R. MUELLER, USA, RET.

CLINICAL LABORATORY METHODS. 5th Ed. By W. E. Bray, M.D., Consulting Laboratory Director, Martha Jefferson Hospital, Charlottesville, Va. 731 pages, 124 text illustrations, 18 color plates The C. V. Mosby Company, St. Louis. 1957. Price $9.75.

The fifth edition of this text appears in a smaller format, making it easier to carry and use on a laboratory desk. There is no sacrifice in content.

New material includes the status of the Salk Vaccine, radio-active iodine and protein-bound iodine in the diagnosis of thyroid disorders, transaminase, anticholinergic drugs, the treponema immobilization test, and cation exchange indicator.

In discussing Chlorpromazine (Thorazine), Dr. Bray omitted mentioning tests for bile in the urine. It is extremely important to use one of three procedures (Hammarsten Test, Huppert-Nakayama Test, or the commercially available Ictotest), because other tests commonly used to detect bile in the urine will frequently give a false positive result with chlorpromazine.

This is an excellent text and an active clinical laboratory will find it an indispensable daily working reference.

LT. JOSEPH E. BIRMINGHAM, JR., MSC, USNR

A TEXTBOOK OF HISTOLOGY. 7th Ed. By Alexander A. Maximow, Late Professor of Anatomy; and William Bloom, Professor of Anatomy, University of Chicago. 628 pages, 1082 illustrations, 265 in color. W. B. Saunders, Philadelphia and London. 1957. Price $11.00.

Few textbooks have had more success with medical students, biologists and practitioners than the present volume. Dr. Bloom has continued improving this already famous masterpiece with help of many distinguished collaborators.

To the beginner illustrations are the great source of understanding. No better or clearer selections could be desired. Where color plates are necessary, superb ones are offered. In addition *simple, understandable* black and white diagrams, charts, and particularly effective stereograms appear at just the right places. Mention should be made of the new fine-quality electron micrographs, which go far to dispel the prejudice of this reviewer for often undependable, artefactual electron-dense organoids and presumptive structures. On the other hand photomicrographs of living cells are conspicuously few.

It is difficult to withhold fulsome praise for most of the revised portions of the text. In a busy class the histology teacher will surely recognize the value of key information,-clear, accurate, and without frills. For military medicine some chapters have vast application and value. Since the discussions of Blood, Lymph, and Bone Marrow are almost classical, few clinical or research service personnel in field or station units can afford to be without this superby organized and carefully illustrated source of basic information.

One possible drawback, not limited to this text only, is an almost complete attention to fixed, stained histological preparations. Some day a living cytology will be the basis for medical student instruction in micro-anatomy and pathology. But such excellent textbooks as this will keep most medical microscopists satisfied with stained slides for years to come. Bibliographical references are well-selected and reasonably up-to-date.

WILLIAW R. DURYEE, PH.D.

CYTOLOGIC TECHNICS FOR OFFICE AND CLINIC. By H. E. Nieburgs, M.D., Director, Cytology Laboratory, Beth El Hospital; Consultant, Division of Cancer Control, Department of Health, New York City. 233 pages, illustrated. Grune & Stratton, New York and London. Price $7.75.

This new book contains material helpful to both the cytopathologist and the clinician. The content is divided into systems and outlines the clinical or surgical approach and method for securing satisfactory specimens for examination. Stress has been placed upon the necessity of treatment and rapid fixation of specimens. Brief diagnostic features of malignant and benign smears have been included in each organ or area examined, along with the accuracy and correlation wtih surgical biopsies.

Laboratory procedures are outlined along with helpful ideas and standard routine for origination and function of a cytological laboratory.

The excellent organization of the text and the manner of presentation lend themselves for easy reference. The illustrations augment and clarify the text. The book is recommended for clinicians, surgeons, gynecologists and pathologists, for close cooperation among these specialists is essentially important in cytopathology. As the author states, the book is not intended to completely deal with the diagnostic phase of cytology.

CDR. ROBERT M. DIMMETTE, MC, USN

PRACTITIONERS' CONFERENCES. Vol. 6. Edited by Claude E. Forkner, M.D., F.A.C.P., Professor of Clinical Medicine, Cornell University Medical College. 375 pages. Appleton-Century-Crofts, Inc., New York. 1957. Price $6.75.

This volume is the 6th of a series of conferences, held at the above Center, unique in that members of other faculties frequently participate. The editor presides over and provides a succinct summary for each conference, which includes patient demonstra-

tion and a brief current bibliography. An innovation not present in earlier volumes is a subject index making it easier to find the subjects discussed in this or the previous five volumes.

This volume contains the latest opinions of the New York group on fifteen such timely topics as: Should patients be told the truth about serious illness?, trichinosis, cancers of the thyroid, prostate, and esophagus, tumor of the lung, portal hypertension, tumors of the bone other than multiple myeloma, early detection of heart disease, superficial fungus disease, poison ivy and contact dermatitis, encephalitis and Parkinsonism, endometriosis, consultations with anesthesiologists, and gout.

This series presents a type of recorded grand rounds, including a panel of experts, with patient demonstration and audience participation. The information presented is both more lively and more current than a formal stylized textbook chapter and less encompassing than a thesis-type or review-type article.

Regardless, the conferences are refreshing to read, and, as live conferences do, often bring out points one misses in reading standard articles. This volume deserves a place in every medical library, down to that of the smallest group.

COL. MARTIN COMPTON, MC, USA

THE CHEMISTRY AND BIOLOGY OF PURINES. Ciba Foundation Symposium. Editors: G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Cecilia M. O'Connor, B.Sc. 327 pages; 124 illustrations and formulae. Little, Brown and Company, Boston. 1957. Price $9.00.

This symposium of 30 participants followed the symposium on pteridines two years ago. The informal style of presentation, and the very helpful discussions of each of the twenty-two papers incorporated in this book follows the established pattern of the Ciba Foundation. This represents the thirty-third publication of these conferences.

The papers may be considered from the general standpoint of the synthesis and properties of purines and their derivatives of recognized or potential biological interest; the degradation of various purines, including uric acid and vitamin B_{12}, as well as their catabolism; and the current studies on 8-aza and 6-mercapto purine derivatives.

The synthetic studies are profusely charted with structural formulae, supplemented by various physical and physical-chemical data, and appear to represent a large number of entirely new substances. The stereochemistry of these products is developed, along with paper chromatography. The biological actions and catabolism are related to a variety of anti-purine activities. The antibiotic, puromycin (6-dimethylamino-9-3′-deoxy-3′-(p-methyoxy-L-phenylalanylamino)-beta-D-ribofuranosyl)-purine) is presented and laboratory and clinical data on it and a number of amino acid analogues recorded. It inhibits growth of certain bacteria, protozoa, oxyurids, tapeworms and a mammary adenocarcinoma of mice, by interfering with purine metabolism.

The enzymic and other biological effects of 8-azapurine nucleosides are related to the nucleic acid metabolism. Apparently 6-mercaptopurine acts in inhibiting tumor growth by interfering with conversion of inosinic acid to adenine or guanine polynucleotides, and is synergistic with azaserine. The importance of these studies in the treatment of leukemia is indicated.

This is a very refreshing summary of current progress, pointing the way to further developments in this very important area.

JAMES C. MUNCH, PH.D.

CLINICAL METHODS. 13th Ed. By Donald Hunter, M.D., F.R.C.P.; and R. R. Bomford, D.M., F.R.C.P.; both are Physicians to the London Hospital, England. 452 pages, illustrated. J. B. Lippincott Company, Philadelphia. 1957. Price $6.00.

This is the 13th edition of a handbook by Hutchison first published in 1897—which must be a record of sorts (60 continuous years of publication!) in the annals of medical pedagogy.

The current edition is some 20 pages shorter than the previous 12th edition, *mirabile dictu*. Developments in the fields of diagnosis are now so rapid and so vast that there is precious little time left for the examiner to develop clinical judgment. Yet, laboratory procedures, x-rays, electrocardiograms and other special tests can never replace a careful, thoughtful history and a thorough, well-organized physical examination. This is the basic theme of this small volume—viz., how to acquire the art of physical diagnosis, which is the *sine qua non* of good medical practice.

This extraordinarily concise handbook contains a number of minor typographical errors which are readily excusable in view of the vast area covered in so concise a manner. If there be any reflection, it would revolve around a sense of over-simplification (only 18 pages and 18 diagrams are devoted to the science of electrocardiography and the name Pardee is misspelled as "Pardle's sign"). However, it is notoriously difficult to winnow the wheat from the chaff. Nonetheless, the authors have produced a remarkably succinct and lucid presentation.

This book deals with practical diagnostic methods; it is primarily a handbook designed for medical students and for practitioners of bedside diagnosis. The history of its publication for three-score years is proof of its indestructible value.

CAPT. C. C. SHAW, MC, USN

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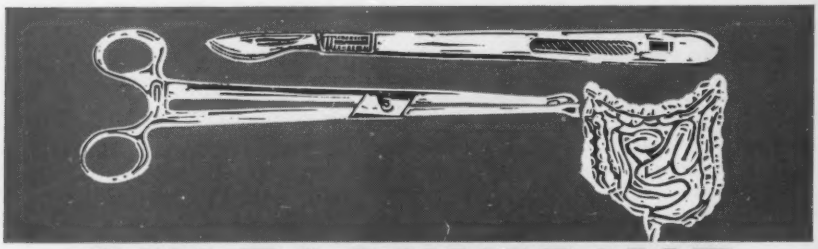

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